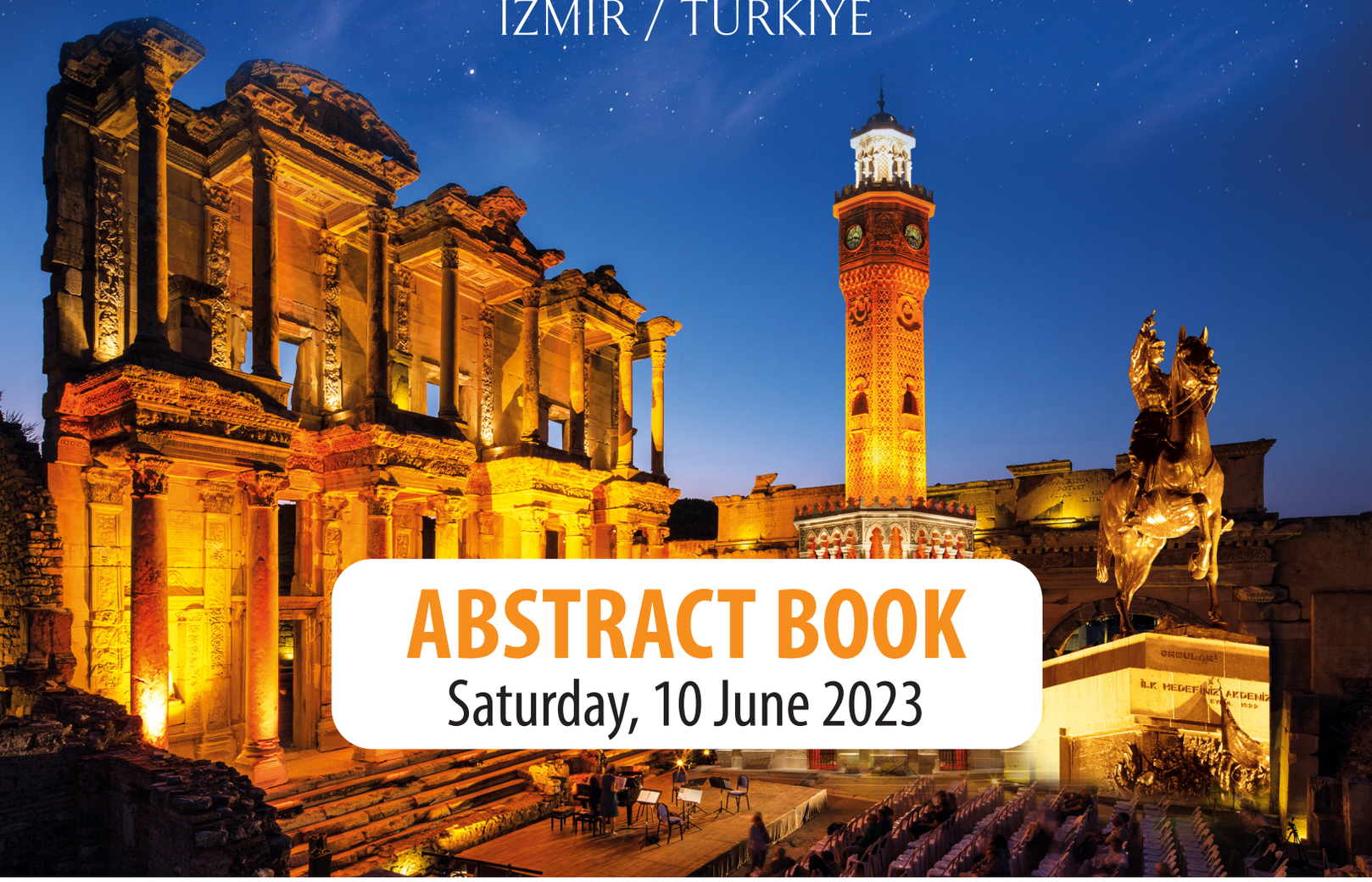
European Paediatric Surgeons' Association

24th EUPSA CONGRESS

June 7 - 10, 2023

Hyatt Regency Hotel

IZMIR / TURKIYE



ABSTRACT BOOK

Saturday, 10 June 2023

ORGANIZATION SECRETARIAT

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08:30 - 10:00

Scientific Session XI

Trauma/General (Parallel Session)

(M1) Regency 1

Chair: Zane Abola (LAT)

Nigel Hall (UK)



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June 7 - 10, 2023
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TR01_LO / 08:30 – 08:40

COMPARISON OF THE EFFECTIVENESS OF THREE DIFFERENT SKIN SUBSTITUTES FOR THE TREATMENT OF PEDIATRIC BURNS

Carlos Delgado-Miguel[1,2], Ada García[1], Lara Fuentes[1], Mercedes Díaz[1], Miriam Miguel-Ferrero[1], Juan Carlos López-Gutiérrez[1]
[1]La Paz Children´s Hospital, Madrid, Spain. [2]Fundación Jiménez Díaz University Hosptial, Madrid, Spain

Abstract

Aim of the Study: Early debridement of dermal burns and coverage of the affected area with skin substitutes is the main treatment in paediatric patients, although there is currently no "gold standard". Our aim is to compare the effectiveness of the different skin substitutes available, analyzing the medium and long-term outcomes.

Methods: A retrospective study was conducted on burn patients admitted to our Burn Unit between 2015-2021, who were divided into 3 groups according to the type of treatment used (EZ-derm®, Biobrane® and Suprathel®). Demographic, clinical data and short- and long-term outcomes were analysed for each patient. Effectiveness was analyzed by escharectomy and grafting rate during acute management and long-term follow-up reintervention rate.

Main results: A total of 378 patients were included (179 Ez-derm® group, 107 Biobrane® group and 92 Suprathel® group). No differences in demographics or burn features were observed between them. Patients treated with Suprathel® had a significantly shorter hospital stay [median 4 days (Q1-Q3: 2-9)], a lower rate of escharectomy and grafting during acute management (21.1%) as well as a lower long-term follow-up reintervention rate (18.5%) compared to the Ez-derm® group [median stay 9 days (Q1-Q3: 6-13); escharectomy and graft 24.6% and reintervention 26.8%] and to the Biobrane® group [median stay 9 days (Q1-Q3: 7-14); escharectomy and graft 32.1% and reintervention 26.2%].

Conclusion: Dermal burns treatment with Suprathel® is associated with a shorter hospital stay, lower need for escharectomy and grafting, and lower need for long-term reintervention. Therefore, it should be considered the treatment of choice for pediatric dermal burns.

TR02_LO / 08:40 – 08:50

SECONDARY BLAST INJURY: RADIOLOGICAL CHARACTERISTICS OF SHRAPNEL INJURIES IN CHILDREN

İnan Korkmaz[1], Mehmet Emin Çelikkaya[2], Ahmet Atıcı[2]
[1]Hatay Mustafa Kemal University, Department of Radiology, Hatay, Turkey. [2]Hatay Mustafa Kemal University, Department of Pediatric Surgery, Hatay, Turkey

Abstract

Aim of the Study: To examine the radiological images of child victims suffering from secondary blast injuries, to reveal organ-based injury patterns and their interrelationships, and to record mortality rates that may develop due to injured systems.

Methods: 65 patients with secondary blast injury due to bomb explosion were included. Injury findings due to shrapnel in radiography and computed tomography (CT) images of the patients were examined. Injured systems and types of injuries were recorded. Children who died in the emergency department or in the pediatric surgery unit during follow-up and treatment were identified from the records. This retrospective study was approved by the local ethics committee.

Main results: The most common injuries were intra-abdominal injuries (41 patients, 63%) and fractures (38 patients, 58.5%). The most common injuries accompanying liver injury were small bowel injury in 7 (43.8%) patients (p=0.420) and spleen injury in 3 (18.8%) patients (p=0.306). Coexistence of small bowel injury and large bowel injury was present in 8 patients (34.8%), and it was statistically significant (p=0.019). Brain damage was present in 10 (71.4%) of 14 (21.5%) patients who died, which was statistically significant (p<0.001).

Conclusions: Our results show that he most common injuries were intra-abdominal injuries. Deaths were especially associated with brain injuries. It should not be forgotten that CT scans will have an important place in the triage of the patient, especially in victims with shrapnel at the abdominal and cranial levels in radiography examinations.

TR03_LO / 08:50 – 09:00

AMPUTATION EXPERIENCES IN A TERTIARY PEDIATRIC BURN CENTER IN THE PEDIATRIC SURGERY CLINIC

Sarper Müftüoğulları[1], Sabri Demir[2], Süleyman Arif Bostancı[3], Elif Emel Erten[3], Can İhsan Öztorun[4], Ahmet Ertürk[4], Şükrüye Demirkaya[1], Osman Nuri İş[1], Müjdem Nur Azılı[4], Emrah Şenel[4]
[1]University of Health Sciences, Ankara City Hospital, Department of Pediatric Surgery, Ankara, Turkey. [2]University of Health Sciences, Ankara City Hospital, Pediatric Burn Center and Department of Pediatric Surgery, Ankara, Turkey. [3]Ankara City Hospital, Department of Pediatric Surgery, Ankara, Turkey. [4]Ankara Yıldırım Beyazıt University, School of Medicine, Department of Pediatric Surgery, Ankara, Turkey

Abstract

Aim of the study: The aim of our study is to share our clinical data and experience with amputation among inpatient burned children in our Pediatric Burn Center (PBC).

Methods: The records of the patients between January 2005 and December 2022 were reviewed retrospectively. Age, gender, length of stay, total burned surface area, cause of the burn, grafting, amputation, and mortality rate were evaluated. Patients who underwent amputation were identified, and their data were compared with patients whose amputation was not performed. P<0.05 was considered significant.

Main results: A total of 160 amputations were performed in 51 of 2474 patients. The fingers and toes were amputated most frequently. The mean age of amputated victims was found to be higher than non-amputated (7.25 years vs. 4.41 years; p<0.001), the length-of-stay at PBC was longer (15.67 versus 66.45 days; p<0.001), the total burned surface area was larger (29.75% vs. 15.04%, p<0.001), the grafting rate was higher (96.1% vs. 29.1%; P<0.001), and the male ratio was higher (80.4% vs. 60.3; p=0.004). Of the amputated victims, 29 (56.9%) had flame burns, and 22 (43.1) had electrical burns. The mortality rate was 3.9% in the amputation and 2.4% in the non-amputation group (p<0.001).

Conclusion: Although flame and electrical burns are less common in children compared to scald burns, amputation is performed at much higher rates. In order to prevent these, it is important to make the first evaluation immediately and to perform the necessary fasciotomies, and escharotomies before the compartment syndrome develops.

TR04_SO / 09:00 – 09:05

BLAST LUNG INJURY IN CHILDREN: INJURY PATTERNS AND ASSOCIATED ORGAN INJURIES

İnan Korkmaz[1], Mehmet Emin Çelikkaya[2]
[1]HMKU Faculty of Medicine, Department of Radiology, Hatay, Turkey. [2]HMKU Faculty of Medicine, Department of Pediatric Surgery, Hatay, Turkey

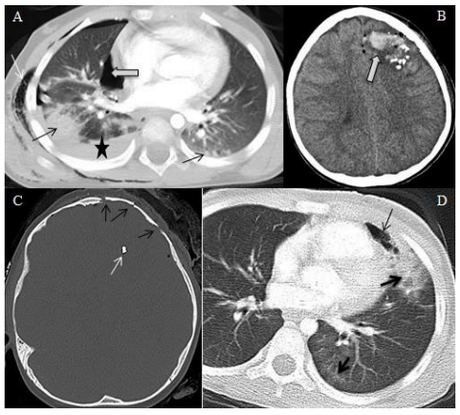
Abstract

Aim of the Study: Bombings are the most common cause of civilian deaths in wars and unfortunately, a large proportion of civilian victims are children. This study aimed to examine the radiological findings of blast lung injury in children, evaluate lung injury patterns on radiological images and document the relationship between blast lung and mortality.

Methods: 36 children with blast lung injury were included in the study. The pediatric trauma score evaluations made in the emergency department in the first admission were recorded. Lung injury findings in the radiography and computed tomography images of the patients were examined, and injuries detected in other systems were recorded. This retrospective study was approved by the local ethics committee (30/06/2022, meeting number 8, decision number 19).

Main Results: The most common lung injury pattern was contusion (right 69.4%, left 80.6%). The incidence of brain damage (52.4%) and intra-abdominal injury (76.2%) in children with low PTS value was statistically significantly higher (p=0.049, p=0.017, respectively). There was no statistically significant correlation between the presence of lung injury, injury patterns, and mortality. The incidence of brain damage in deceased patients (61.5%) was statistically significantly higher than the incidence of brain damage in surviving patients (26.1%) (p=0.036). Low PTS was observed in 11 (84.6%) of the deceased children and in 10 (43.5%) of the survivors (p=0.016).

Conclusions: Our findings revealed that pediatric blast lung injury is associated with other system injuries, and that a multimodal radiological approach is required in child victims.



TR05_SO / 09:05 – 09:10

BLOCKING PAIN IN THE EMERGENCY ROOM, ONE NERVE AT A TIME: A RETROSPECTIVE COHORT STUDY

Oscar Mazzei[1,2], Ahkin Keizer[3], Desislava Varbanova[1], Thomas Benkoe[1]
[1]Klinik Donaustadt- Department of Pediatric Surgery, Vienna, Austria. [2]University of Trieste- Doctoral Program in Sciences of Development and Reproduction, Trieste, Italy. [3]Medical University of Vienna- Department of Orthopedics and Traumatology, Vienna, Austria

Abstract

Aim of the Study: The aim of this study was to evaluate the impact of peripheral nerve blocks (PNB) in the pediatric emergency department (ED) for selected injuries on door-to-analgesia time and hospital length of stay.

Methods: A retrospective chart review was conducted on all patients with hand or face laceration or femur or metacarpal fractures with dislocation, over a one-year period. We compared the results of PNB (ultrasound guided femoralis, radialis, medianus, ulnaris blocks, or landmark based supraorbital, infraorbital, or mental blocks) with those of treatment under general anesthesia. Data collected included door-to-analgesia time, hospital length of stay and anesthesiological complications.

Main results: Data on 76 patients were collected, 38 in the PNB group. We observed a reduction in door-to-analgesia time in the PNB group, with a mean reduction of 15 minutes compared to the control group ($p>0.001$). A procedural sedation was required in two cases and additional local anesthesia in three cases in the experimental group. The mean hospital length of stay was significantly shorter in the PNB group with a mean reduction of 9 hours ($p>0.001$). No complications were reported in either group.

Conclusions: The introduction of PNB in the pediatric ED significantly reduces door-to-analgesia time and the hospital length of stay required for treatment of selected injuries. This technique appears to be a safe and effective alternative to traditional methods of pain management in the pediatric emergency setting. Further studies are needed to confirm these findings and to evaluate the potential benefits of PNB in other types of injuries.

TR06_SO / 09:10 – 09:15

NON-FIREARM RELATED PENETRATING THORAX AND ABDOMEN TRAUMA: EXPERIENCES OF 100 CHILREN IN A PEDIATRIC TRAUMA CENTER

Elif Emel Erten[1], Can İhsan Öztorun[2], Bilge Başaran[3], Vildan Selin Şahin[1], Ahmet Ertürk[2], Sabri Demir[3], Süleyman Arif Bostanci[1], Sukruye Demirkaya[3], Yavuz Yilmaz[3], Müjdem Nur Azili[2], Emrah Senel[2]
[1]ankara Bilkent City Hospital Department of Pediatric Surgery, Ankara, Turkey. [2]ankara Yildirim Beyazit University School of Medicine Department of Pediatric Surgery, Ankara, Turkey. [3]university Of Health Sciences Department of Pediatric Surgery, Ankara, Turkey

Abstract

Aim of the Study: We aimed to evaluate the epidemiological data and treatments of children with non-firearm related penetrating thorax and abdomen trauma.

Methods: Between 2015- 2022, children who were admitted to the pediatric trauma center with non-firearm related penetrating thorax and abdomen trauma were retrospectively analyzed in terms of demographic data, mechanism of injury, injured organs of hospital stay

Main results: One hundred patients were included in the study. The mean age was 14.51±2.75 years and 89 (89%) were male and 11 (11%) were female. Sixty-nine (69%) patients were injured by intentional injury, and 31 (31%) patients were injured by accident. Type of injury was knife injury in 81 patients. There were thoracic injuries in 45 patients. They were treated by thoracoscopic surgery in 3 patients, by tube thoracostomy in 21 patients, and by conservatively primary suturing of the incisions in 21 patients. 58 patients had abdominal injuries. Laparotomy was performed in 9 patients due to hemodynamic instability, and laparoscopic exploration was performed in 15 patients.13 patients had both thoracic and abdominal injuries. The mean of hospital stay was 3.83±2.75 days. The mean of hospital stay was 6.71±2.53 days in patients who underwent surgery, and 3.25±2.63 days in those who underwent conservative treatment ($p<0.05$). There was no mortality in the follow-up period.

Conclusions: In our study, we found that non-firearm penetrating injuries occurred more frequently in adolescent boys as intentional knife injuries. Laparoscopy and thoracoscopy should be done safely in the treatment of penetrating thoracic and abdominal injuries.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
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TR07_SO / 09:15 – 09:20

NEUTROPHIL-TO-LYMPHOCYTE RATIO AS A PREDICTOR OF SHORT- AND LONG-TERM COMPLICATIONS IN PEDIATRIC BURNS

Carlos Delgado-Miguel[1,2], Lara Fuentes[1], Ada García[1], Mercedes Díaz[1], Miriam Miguel-Ferrero[1], Juan Carlos López-Gutiérrez[1]
[1]La Paz Children´s Hospital, Madrid, Spain. [2]Fundación Jiménez Díaz University Hospital, Madrid, Spain

Abstract

Aim of the Study: Neutrophil-to-Lymphocyte Ratio (NLR) has been postulated as a useful inflammatory biomarker in the prediction of complications in different pediatric diseases. Our aim is to analyze the role of the NLR in the development of complications in children with burns, both in the short term (need for grafting) and in the medium to long term (need for reintervention on different sequelae).

Methods: A retrospective study was performed in burn children followed up in our Burn Unit between 2015-2021. Demographic, clinical and laboratory features at admission were evaluated. Predictive factors for the development of complications after burns (time of evolution, burned body surface area, and acute phase reactants) were analyzed using sensitivity and specificity analysis (ROC curves).

Results: A total of 342 patients (198 males, 144 females) were included, with a median age of 27 months (interquartile range 15-83 months). In 97.4% of cases the burns were caused by thermal injuries (78.4% scald burns). Acute escharectomy and grafting were performed in 85 patients (24.9%), while long-term sequelae were observed in 112 cases (32.7%). NLR was the most sensitive and specific predictor for the need of escharectomy and grafting (Sensitivity 90%, Specificity 88.4%; AUC 0.920), for the development of long-term sequelae (Sensitivity 80.4%, Specificity 83.5%; AUC 0.849) and for the need of reintervention (Sensitivity 83.5%, Specificity 80.9%; AUC 0.833).

Conclusion: NLR may be considered the best predictor for the development of short- and long-term complications and sequelae of childhood burns. It may help to identify high-risk patients to prevent these consequences.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

GE21_SO / 09:20 – 09:25

THE IMPACT OF SLEEP DEPRIVATION ON PERFORMANCE ON A ROBOTIC TRAINING PLATFORM

Samaneh Hasari[1], Jan Gödeke[1,2], Jochem König[3], Oliver Muensterer[1,2]
[1]Department of Pediatric Surgery, University Medical Center of the Johannes-Gutenberg-University, Mainz, Germany. [2]Department of Pediatric Surgery, Dr. von Hauner Children's Hospital, LMU Medical Center, Munich, Germany. [3]IMBEI, Johannes Gutenberg University, Mainz, Germany

Abstract

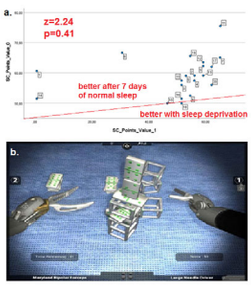
Aim of the Study: The effect of sleep deprivation on surgical performance is controversial. While some studies show impairment, others do not. This study evaluates the impact of sleep deprivation on standardized performance scores on a robotic training platform.

Methods: Surgical trainees were recruited to participate. After overcoming the learning curve, they performed a curriculum of 4 exercises ("ring tower", "suture sponge", "vitruvian operation", "stacking challenge") on a virtual-reality robotic simulator (Mimic dV-Trainer), having slept normally for 7 days. They then performed the same curriculum after an on-call night shift with no more than 3.5 hours of sleep. Performance scores with or without sleep deprivation were compared. All participants were asked to answer standardized questionnaires on chronotype and overall sleep quality.

Results: Twenty participants completed the study. Fourteen reported sleep problems, 4 were morning persons, and 5 were evening persons according to standardized questionnaires. There were no significant differences between sleep-deprived and non-sleep deprived performance except for overall scores in the "stacking challenge" exercise (figure). Sleep deprivation impaired performance more often in morning-person chronotypes.

Conclusions: Sleep deprivation in surgical trainees is generally not associated with lower performance on a robotic simulator except in the complex task of stacking a tower, which requires a combination of strategy, dexterity, coordination, and steady hand movements. Because these factors are fundamental for safe robotic operations, surgeons should avoid operating after they have gotten less than 3.5 hours of sleep.

Figure: Composite scores (a.) of the "stacking challenge" exercise (b.) with (x-axis) and without (y-axis) sleep deprivation.



24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
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GE22_SO / 09:25 – 09:30

COMPARISON OF SINGLE-INCISION LAPAROSCOPIC PERCUTANEOUS AND CYSTOSCOPE FORCEPS ASSISTED MORGAGNI HERNIA REPAIR TECHNIQUES

Mehmet Hanifi Okur, Bahattin Aydoğdu, Mustafa Azizoğlu, Serkan Arslan, Erol Basuguy
Dicle University, Department of Pediatric Surgery, Diyarbakır, Turkey

Abstract

Aim of the study: As this is the first study on Morgagni hernia repair, our goal was to compare single-incision laparoscopic percutaneous and cystoscope forceps-assisted Morgagni hernia repair techniques.

Methods: A total of 40 patients were allocated to two groups, each with 20 patients. Group 1: Single incision (port) laparoscopic surgical percutaneous Morgagni hernia repair (with a 5 mm Storz laparoscopic scope entered through the umbilicus). Group 2: Single incision (port) laparoscopic surgical percutaneous Morgagni hernia repair (with an 11 Fr [3.6 mm] Olympos cystoscope entered through the umbilicus + using forceps + sac plication, and sac cauterization). In Group 1; the sac was not removed. In group 2; we advanced the forceps through the cystoscopy, caught the sac, pushed the needle through the sac, plicated the sac, and then we cauterized the sac.

Main results: Of the 40 patients, 70% (n=28) were male. The symptoms at admission included repeated chest infections (40%), dyspnea (30%), vomiting (22%), and abdominal pain (22%). The colon (80%) was the most frequently herniated organ. No difference was found between groups in terms of age, gender symptomatology, or associated anomalies. The operation time was shorter in group 2 compared to group 1 ($p<0.05$; 25 minutes vs 40 minutes). Although there was one recurrence in group 1, no recurrence was reported in group 2. The recurrence incidence did not differ between groups ($p>0.05$).

Conclusions: Cystoscope-assisted repair of Morgagni hernia was found to be superior in terms of safety and shorter operation time.



24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE

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GE23_SO / 09:30 – 09:35

EUROPEAN PEDIATRIC SURGEONS' ASSOCIATION SURVEY ON TIMING OF INGUINAL HERNIA REPAIR IN PREMATURE INFANTS

Tutku Soyer[1], Luca Pio[2], Ramon Gorter[3], Leopoldo Martinez[4], Jens Dingemann[5], Federica Pederiva[6], Anne Dariel[7], Elle Ruttenstock[8,9], Mohits Kakar[10], Nigel Hall[11]
[1]Department of Pediatric Surgery, Hacettepe Univeristy, Faculty of Medicine Ankara, Turkiye, Ankara, Turkey. [2]Department of Surgery, St. Jude Children's Research Hospital, Memphis, TN 38105, USA, Memphis, USA. [3]Department of Pediatric Surgery, Amsterdam UMC, University of Amsterdam & Vrije Universiteit, Amsterdam, Netherlands. [4]Department of Pediatric Surgery, Hospital La Paz, Madrid, Spain. [5]Centre of Pediatric Surgery, Hannover Medical School and "Auf der Bult" Children's Hospital Hannover, Hannover, Germany. [6]Department of Pediatric Surgery, "Vittore Buzzi" Children's Hospital, Milan, Italy. [7]Department of Pediatric Surgery, AP-HM, Marseille, Provence-Alpes-Côte d'Azur, France. [8]Division of General and Thoracic Surgery, Physiology and Experimental Medicine Program, The Hospital for Sick Children, Toronto, Canada. [9]Developmental and Stem Cell Biology Program, Hospital for Sick Children, Toronto, Canada. [10]Department of Pediatric Surgery, Riga Stradins University & Children's Clinical University Hospital, Riga, Latvia. [11]University Surgery Unit, Faculty of Medicine, University of Southampton, Southampton, United Kingdom

Abstract

Aim of the study: To evaluate practice patterns of European Pediatric Surgeons' Association (EUPSA) members in the timing of inguinal hernia repair (IHR) in premature infants (PI,<37 weeks).

Methods: An online-survey consisting of 29 questions, was distributed among EUPSA members between 11th-25thJanuary 2023.

Main Results: 150 EUPSA members completed the survey. IHR for PI without history of incarceration (HI) was preferred before discharge by 56% of the respondents. In PI with HI, 60% of respondents prefer to operate before discharge and 27% of them operated at diagnosis. In term infants, 43% of respondents postpone the surgery if there was no HI. Most of the responders reported that rationale to operating before discharge was risk of incarceration whereas lower the risk of apnea was the most mentioned rationale for postponing the surgery. 54% of respondents prefer open approach under general anesthesia, 27% of them prefer spinal anesthesia. Only 11% prefer laparoscopic surgery in PI, 17% in PI<32 weeks. Contralateral side evaluation was never done by 61% of respondents and 42% only perform during laparoscopic repair. 77% of respondents report that overnight stay policy is applied in their clinic for PI<37 weeks.

Conclusion: The practice patterns of pediatric surgeons in the treatment of IH shows wide variation in PI. IHR before discharge was the most common practice because of increased risk of incarceration. Lower risk of postoperative apnea has been reported as the most common rationale to postpone the surgery. Randomized trials are needed to define the best timing for IHR in PI.

GE24_SO / 09:35 – 09:40

THE EFFECT OF LAPAROSCOPIC PYLOROMYOTOMY ON CEREBRAL AND SPLANCHNIC OXYGENATION

Silvia Ceccanti, Alice Cervellone, Denis A. Cozzi
Sapienza University o Rome, Rome, Italy

Abstract

Aim of the Study: To investigate whether CO_2 insufflation alters cerebral and abdominal oxygenation during laparoscopic pyloromyotomy.

Methods: After appropriate ethical and parental approval, we enrolled 25 patients who underwent laparoscopic pyloromyotomy using 6-8 mmHg pneumoperitoneum at 31.86±10.98 days of life. Regional cerebral oxygen saturation (cSO_2) and splanchnic oxygen saturation (sSO_2) were measured using near-infrared spectroscopy. Clinical parameters such as end-tidal carbon dioxide levels ($ETCO_2$), heart rate, body temperature, arterial pressure and urine output have also been recorded. Data (mean±SD) were collected intraoperatively at 0, 15, and 30 minutes and compared to baseline values using the t-test.

Main results: cSO_2 remained stable throughout the operation compared to baseline values. Three (12%) patients presented >20% fall at 15 and 30 minutes of laparoscopy, and one presented metabolic acidosis at the end of surgery. sSO_2 had a significant fall from 15 minutes of surgery (p=0.006) until the end of insufflation, when there was an improvement in sSO2 levels, although still lower than the baseline values (p=0.02). $ETCO_2$ increased significantly during the first 15 minutes of laparoscopy, reaching a maximum of 43.1±11.5 Kpa at 30 minutes. Urine output was significantly reduced within 4 hours after laparoscopy.

Conclusions: The increase of $EtCO_2$ during laparoscopic pyloromyotomy confirms that the insufflated CO_2 is absorbed by the peritoneum, although it does not significantly affect the cSO_2. However, 6-8 mmHg pneumoperitoneum leads to an intraoperative decrease of sSO_2 and oliguria during the first post-operative hours, a reversible phenomenon.

GE25_SO / 09:40 – 09:45

IS CONSERVATIVE MANAGEMENT OF FOLLICULAR VARIANT PAPILLARY THYROID CARCINOMA AND NIFTP POSSIBLE IN CHILDREN?

Ulgen Celtik[1], Yesim Ertan[2], Samim Ozen[3], Damla Goksen[3], Ahmet Celik[1]
[1]Ege University Faculty of Medicine Department of Pediatric Surgery, Izmir, Turkey. [2]Ege University Faculty of Medicine Department of Pathology, Izmir, Turkey. [3]Ege University Faculty of Medicine Department of Pediatric Endocrinology, Izmir, Turkey

Abstract

Aim of the Study: Non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) is a new entity with benign clinical characteristics. However, there is limited data in literature for pediatric population. We aimed to compare NIFTP and invasive encapsulated follicular variant papillary carcinoma (fvPTC) and to discuss management protocol.

Methods: Records of patients with fvPTC and NIFTP between 2016-2022 were reviewed retrospectively. Two groups were compared according to demographics, radiological findings, surgical management, postoperative management, and long-term follow-up. Statistical analyses were performed by Chi-Square, Fisher's Exact, Fisher-Freeman Halton Exact and Mann-Whitney-U tests.

Main results: Twenty patients (M/F:7/13) were included with 10 in NIFTP, and 10 in fvPTC group. Mean age at operation was 14.10∓2.61 years. Demographics and preoperative nodule sizes (p:0.912) were statistically similar between groups. Although there was a tendency for lobectomy in NIFTP group, there was no statistically significant difference between groups in terms of surgical treatment, it was depicted in Figure 1. In postoperatively, while no patient received radioactive iodine treatment (RAI) in NIFTP, it was received in 6 for fvPTC. (0.011) Five patients in NIFTP, and 3 in fvPTC followed with only lobectomy without any adverse events or recurrence for 47.50∓19.25 and 30.10∓19.25 months follow-up period respectively.

Conclusion: To conclude, NIFTP seems indolent disease, therefore, children who have NIFTP can be observed with lobectomy. Also, they do not require RAI treatment. However, larger series are required for more reliable results.

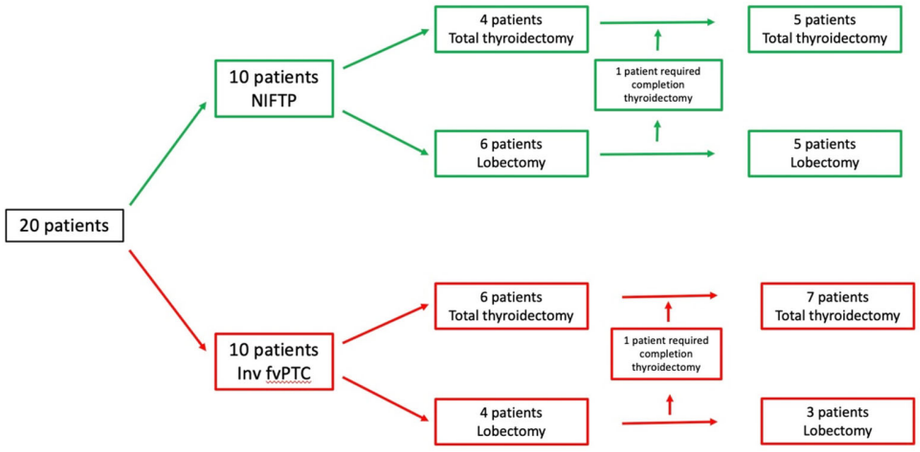


Figure 1: Surgical management for two groups

GE26_SO / 09:45 – 09:50

ADDITION OF A TRANSFIXION SUTURE TO THE PURSE-STRING SUTURE DURING LAPAROSCOPIC INGUINAL HERNIA REPAIR INCREASES PERI-HERNIA NECK SAC COLLAGEN FORMATION

Oktay Ulusoy, Cansu Kural, Oğuz Ateş, Faika Gülce Hakgüder, Mustafa Olguner, Feza Miraç Akgür
Dokuz Eylul University, Medicine School, Department of Pediatric Surgery, İzmir, Turkey

Abstract

Aim of the Study: Several laparoscopic inguinal hernia repair (IHR) and suture techniques have been developed. We have been performing single port laparoscopic IHR with ''Single Port Incisionless – Intracorporeal Conventional Equipment-Endoscopic Surgery'' (SPICES) method since 2005. In this method, transfixion suture was placed in addition to intracorporeal purse-string suture. An experimental study was conducted to investigate the effects of suture techniques on collagen formation, which is an indicator of fibrosis in the peri-hernia neck sac.

Methods: Thirty-five adult male, Wistar-Albino rats (260-300 g) were used in the current study. Rat testes being intraabdominal physiologically provided an open inguinal channel model. The testes were descended to the scrotum with silk suture. Suture techniques were applied and on 15th day post-operative inguinal channels were examined. Results were statistically analyzed and a p-value <0,05 was considered statistically significant. There were 5 experimental groups: Group 1: Control group (n=7), Group 2: Sham group (n=7), Group 3: IHR with purse-string suture only (n=7), Group 4: IHR with transfixion suture only (n=7), Group 5: IHR with purse-string suture plus transfixion suture (n=7)

Main results: Collagen thickness of the peritoneum around the internal inguinal ring were similar in the control and sham groups. The collagen thickness in group 5 was significantly higher compared with groups 4 and 3 ($p<0.001$). However, no statistical difference was found between groups 4 and 3 ($p=0.5468$).

Conclusion: The combined use of purse-string and transfixion suture in laparoscopic inguinal hernia repair stimulates collagen formation, hence fibrosis, the most and thus prevents recurrence.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

GE27_SO / 09:50 – 09:55

ACCURACY OF THE DERIVED NEUTROPHIL-TO-LYMPHOCYTE RATIO FOR THE DIAGNOSIS OF ACUTE APPENDICITIS IN CHILDREN

Julio César Moreno Alfonso[1,2], Ada Molina Caballero[1], Aníbal Teherán[3], Alberto Pérez Martínez[1]
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Abstract

Aim of the Study: To determine the accuracy of derived neutrophil to lymphocyte ratio (dNLR) for diagnosis of acute appendicitis in children.

Methods: Prospective diagnostic study of patients with acute appendicitis and controls with non-surgical abdominal pain, who were admitted at our hospital from 2020 to 2022. White blood cell count (WBC), neutrophil to lymphocyte ratio (NLR) and dNLR were compared between groups. The Institutional Ethics Review Board has approved this study.

Main results: 202 patients were included: 101 cases with acute appendicitis (69% male, age 9.9 ± 3.3 years) and 101 controls with non-surgical abdominal pain (44% female, age 9.4 ± 3,6). WBC, NLR and dNLR were significantly higher in the acute appendicitis group than control (16.47 ± 5.14 vs. 11.18 ± 4.18 x 103/µL, p= < 0,0001; 9.58 [IQR 9.4] vs. 3.36 [IQR 5.1] p= < 0,0001; and 5.25 [IQR 3.8] vs. 2.39 [IQR 2.7] p= < 0,0001, respectively). The sensitivity, specificity, positive predictive value, negative predictive value, area under the receiver operating characteristic curve and cutoff point of dNLR for diagnosis of acute appendicitis were 71%, 74%, 73%, 72%, 0.811 and 3.78, respectively (Fig. 1). Positive and negative likelihood ratios of WBC, NLR and dNLR were 1.95 and 0.26; 2.05 and 0.32; and 2.77 and 0,39, respectively.

Conclusions: dNLR is a novel, inexpensive and noninvasively inflammatory biomarker that shows a high accuracy for diagnosis of acute appendicitis.

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GE28_SO / 09:55 – 10:00

EUPSA MULTICENTRE STUDY ON MANAGEMENT AND OUTCOMES OF SMALL INTESTINAL ATRESIAS

George Bethell[1], Roma Varik[1], Niels Bjørn[2], Mark Ellebæk[2], Rebeka Pechanová[3], Igor Béder[3], Francesco Laconi[4], Hatice Sonay Yalçın Cömert[5], Gül Şalcı[5], Felix De Bie[6], Marc Miserez[6], Amulya Saxena[1]
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Abstract

Aim of the study: To analyze management and outcomes of small intestinal atresia (SIA) across Europe.

Methods: Data were retrospectively collected as a EUPSA study from six specialist pediatric surgical units within Europe including infants with SIA over five years (January 2016 to December 2020) with at least one-year follow-up. Outcomes were time to full enteral feeds, length of hospital stay, unplanned reoperation, total number of general anesthesias, short bowel syndrome and mortality. Data are expressed as median (range).

Main results: Fifty-two infants with SIA were identified, of which 28(54%) were male with birthweight 2.75(0.63-4.77)kg. SIA was suspected antenatally in 30(58%) infants. At initial procedure type I, II, IIIa, IIIb and IV SIA were encountered in 12(26%), 10(21%), 12(26%), 5(11%) and 8(17%) procedures respectively (missing in five). Primary anastomosis was undertaken in 39(75%) procedures, anatomical configuration of these were end-to-side(n=12), end-to-end(n=9) and side-to-side(n=7) (missing in six). Of the enterostomies formed, three(23%) were Santulli and three(23%) were Bishop-Koop enterostomies. Unplanned abdominal reoperation, excluding stoma closure, was required in 14(26.9%) infants and indications for these were intestinal obstruction (n=10), bowel necrosis (n=2), stoma complication (n=1) and unspecified (n=1). Other outcomes were generally good and are shown in the table.

Conclusions: Operative approach varies with SIA and is largely dependent on anatomy encountered and surgeon experience. Unplanned reoperation rate is high (>¼), but outcomes generally good. Our findings can be used to counsel parents with antenatal suspicion of SIA.

10:30 - 12:00

Scientific Session XIII

Oncology (Parallel Session)

(M1) Regency 2

Chair: Gonca Tekant (TUR)

Stefano Guliana (UK)



ON01_LO / 10:30 – 10:40

WHAT PLACE FOR THE RETROPERITONEOSCOPIC APPROACH IN SUPRARENAL NEUROBLASTIC TUMORS IN CHILDREN?

Jessica Pinol[1], Nicoleta Panait[1], Audrey Aschero[1], Alice Faure[1], Frédéric Hameury[2], Olivier Abbo[3], Aurélien Scalabre[4], Jean-François Lecompte[5], Nicolas Kalfa[6], Carole Coze[1], Marc-David Leclair[7], Anne Dariel[1]
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Abstract

Aim of the study: 1) To compare results of transperitoneal laparoscopy or retroperitoneoscopy, 2) to define the indications of retroperitoneoscopic approach in management of suprarenal neuroblastic tumors in children.

Methods: This multicenter retrospective study included children who underwent transperitoneal (group A) or retroperitoneoscopic (group B) excision of a suprarenal neuroblastic tumor since 2010. Clinical, radiological, anatomopathological, operative data, and oncologic results were compared.

Main results: 110 patients were included (group A = 90; group B= 20). Tumor diameter was higher in group A (35mm) than in group B (30.5mm) (p=0.09) for tumor volumes of 24.7mL and 6.7mL (ns). An IDRF (Image-Defined Risk Factors) was present in 23% in group A and 35% in group B, more than one in 10% and 5% (ns). 23% of group A and 45% of group B patients were in pretreatment high-risk group (ns). Concerning surgery, dissection difficulties (vascular, adjacent organs) were more frequent in group B (45%) than in group A (13%) (p=0.003) with comparable conversion rate (10%). Lengths of hospitalization and oral intake were shorter in group B (2.4 and 0.7 days) as compared to group A (3 and 1 days) (p=0.05, p=0.08). More local recurrences occurred in group B (15% vs 0%) (p=0.005). Risk factors associated with local recurrence were neoadjuvant chemotherapy and surgical difficulties in vascular dissection.

Conclusions: Retroperitoneoscopy for suprarenal neuroblastic tumors in children is feasible in selected cases. We recommend it for tumors with a maximum diameter of 30-40mm for a volume of 10-15mL, localized and without IDRF.

ON02_LO / 10:40 – 10:50

ULTRASOUND ELASTOGRAPHY IN THE DIAGNOSIS OF MALIGNANT CERVICAL LYMPHADENOPATHY IN CHILDREN: CAN IT REPLACE SURGICAL BIOPSY?

Ahmed Elgendy[1], Eslam Elhawary[2], Mohamed Shareef[2], Marwa Romeih[3], Ahmed Ebeed[4]
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Abstract

Aim of the Study: To assess the accuracy of ultrasound elastography in detecting pediatric malignant cervical lymph nodes, and if this modality can obviate the need for surgical biopsies.

Methods: A prospective study from September 2017 to September 2020 included 64 children with persistent cervical lymphadenopathy. B-mode ultrasound, color doppler, and sonoelastography were conducted. Elastography scans were classified into five patterns, and patterns from 3-5 were considered as malignancies. All children underwent open biopsies followed by pathological examination. Results of tissue diagnosis were compared to patterns of elastography to determine its accuracy.

Main Results: Twenty-eight patients (43.8%) had malignant nodes and the remaining 36 (56.2%) were due to benign causes. Elastography patterns of 1-2 were documented in 30 patients, and all of them were diagnosed as benign lesions. Patterns of 3-5 were demonstrated in 34 patients. Out of them, 28 were confirmed as malignancies, whilst 6 children were of benign nature (false-positive). All false-positive results occurred in pattern 3 of elastography. Ultrasound elastography achieved 100% and 85.7% sensitivity and specificity, respectively, and an overall accuracy of 90.6% in the differentiation between malignant and benign entities. The overall accuracy of B-mode and color doppler were 75% and 82.2%, respectively.

Conclusions: Elastography is a useful tool that should be added to ultrasound modalities and the diagnostic algorithm for pediatric cervical lymphadenopathy. Surgical biopsy in eligible patients is imperative to commence proper therapy or to discharge the child. Despite favorable results of elastography, it cannot replace surgical biopsy or change its indications.

ON03_LO / 10:50 – 11:00

TREATMENT OF SACROCOCCYGEAL TERATOMA: ARE THERE GLOBAL DIFFERENCES?

LJ van Heurn
1. Emma Children's Hospital, Amsterdam UMC, University of Amsterdam & Vrije Universiteit Amsterdam, Department of Pediatric Surgery, Amsterdam, Netherlands

Abstract

Aim of the study: The vast majority of reported patients with sacrococcygeal teratoma (SCT) is currently treated in high income countries. Others have shown that there are unacceptable differences in the mortality of a number of congenital disorders between low- and high-income countries. It is unknown whether these differences are also present in SCT.

Methods: Retrospective SCT data were collected in an international retrospective study (The SCT Study) including patients from 132 institutes from 63 countries in high (HICs), higher-middle (HMICs), lower-middle (LMICs) and low-income countries (LICs).

Main results: 3409 SCT patients entered analysis; 57 children from low-income countries (LICs), 377 from lower-middle income countries (LMICs), 677 from higher-middle income countries (HMICs) and 2296 from high-income countries (HICs) Median age at resection was higher in LICs: 52 days (IQR 14·0-570) compared to 40 (14-271·5), 17 (6-187·3) and 9 (3-99) days in LMICs, UMICs and HICs, respectively (P<0.001). Malignant disease at presentation was more often found in HICs (n=245, 10·7%) and UMICs (n=91, 13·4%) compared to LMICs (n=27, 7·2%) and LICs (n=3, 5·3%) (p=0.004). The recurrence and survival rates were equivalent in all income groups.

Conclusions: SCTs are resected later in life in LICs and LMICs. Despite later resection malignant disease is not more often found. Patient survival was not significantly different between all income countries ranging from 58.1% to 90.3%. This study shows that SCT surgery can be done well and safely all over the world.

ON04_LO / 11:00 – 11:10

IMPACT OF BCL-2 EXPRESSION ON COURSE OF DISEASE IN NEUROBLASTOMA

Jakob Mühling, Alexandra Fröba-Pohl, Oliver Muensterer, Dietrich von Schweinitz, Roland Kappler
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Abstract

Aim of the Study: The anti-apoptotic Bcl-2 protein has implications for maturation and differentiation of neural tissue and acts as a strong modulator of carcinogenesis in different tumors. Recent research focuses not only on its benefit as a prognostic factor, but also as a potential therapeutic target. The role of BCL-2 in neuroblastoma, the most common extracranial solid tumor in childhood, remains controversial. The aim of our study was to determine the gene expression level of BCL-2 in a large cohort of neuroblastoma patients and its correlation with clinical parameters.

Methods: Tumor samples and clinical data were collected from 100 neuroblastoma patients treated according to the NB2004 protocol of the German Society of Pediatric Oncology and Hematology. BCL-2 gene expression levels were measured by quantitative RT-PCR and correlated with clinical parameters.

Main Results: BCL-2 expression was detectable in all tumor samples. Relative BCL-2 expression levels were higher in females versus males (1.839 versus 1.342; p=0.0143), in patients with low versus high International Neuroblastoma Staging System (INSS) stage (2.051 versus 1.463; p=0.0206), in non-metastatic versus metastatic disease (1.801 versus 1.342; p=0.0242), as well as in patients without presurgical chemotherapy (2.145 versus 1.402; p=0.0016), but was not associated with overall survival and MYCN amplification.

Conclusions: Our study demonstrates the ubiquitous expression of BCL-2 in neuroblastoma and suggests the possibility for targeted therapy with BCL-2 inhibitors, even in lower stage neuroblastoma. It also underlines the need for further research on concomitant genetic alterations for a better understanding of the impact of BCL-2 on this pediatric tumor type.

ON05_LO / 11:10 – 11:20

FUNCTIONAL SEQUELAE ASSESSMENT IN PEDIATRIC SURGICAL ONCOLOGY (FUSE): A SURVEY FROM THE INTERNATIONAL SOCIETY OF PAEDIATRIC SURGICAL ONCOLOGY.

Luca Pio[1], Pablo Lobos[2], Simone Abib[3], Jonathan Karpelowsky[4,5], Sharon Cox[6,7], Israel Fernandez-Pineda[8], Andrew Davidoff[1,9], Marc Wijnen[10], Paul D. Losty[11,12], Hafeez Abdelhafeez[1,9]
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Abstract

Aim of the Study: Growing numbers of pediatric survivors carry treatment related burden morbidity from multimodal cancer therapies. Few studies report the long-term sequelae that may follow surgery for solid tumours. The aim of this study is to analyze current follow-up assessments and variability in reporting frequency (%) of functional sequelae that may follow solid tumour surgical operations in voluntary participating international centers.

Methods: A survey using a Google platform (Mountain View, California, USA) was designed, validated, and distributed by an international society of pediatric surgical Oncology to a mailing list of pediatric surgical oncologists at each center. The survey consisted of 20 items divided into six areas analyzing a wide range of major pediatric solid tumors.

Main results: A total of 108 surgeons completed the survey, across 45 international countries and 103 referral centers for pediatric surgical oncology. Fertility assessments and pulmonary function testing were not conducted by responders in some 63% of bladder/prostatic tumors and 66% of thoracic surgical oncology resections, respectively with no standardized follow-up. Liver tumors surgery had structured and standardized follow-up (64%). The majority of pediatric surgical oncologists (97%) considered that functional surgical follow-up aftercare should be greatly improved.

Conclusion: This survey has highlighted wide variability in surgical practice with regard functional follow-up assessments in childhood cancer survivors. There is a crucial need to develop better practice with structured post-operative functional screening for all pediatric tumors. A REDCap (Research electronic data capture) database will be deployed to quantify and score metrics linking functional sequelae with international structured follow-up guidelines.

24th EUPSA CONGRESS
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ON06_SO / 11:20 – 11:25

ROBOTIC ASSISTED MINIMAL INVASIVE SURGERY FOR NEUROBLASTIC TUMORS - EXPERIENCES FROM A TERTIARY PEDIATRIC SURGICAL ONCOLOGY CENTER

Thomas Blanc[1], Kai Breuling[2], Melissa Benissad[1], Marianna Cornet[1], Veronique Minard[3], Pablo Berlanga[3], Daniel Orbach[4], Sabine Sarnacki[1]
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Abstract

Aim of the Study: Neuroblastic tumors exhibit a wide range of behaviors from spontaneous regression to significant local and/or metastatic aggressiveness. Open surgery is still required in many cases, but there is growing experience with minimal invasive surgery (MIS) in tumors without image defined risk factors (IDRFs). Robotic assisted minimal invasive surgery (rMIS) has the advantages of tremor filtering, surgeon-guided 3D view and motion scaling. In this report, we share our experience with rMIS in neuroblastoma.

Methods: A retrospective study of patients that underwent rMIS for neuroblastic tumors from 2017-2022.

Main results: From 2017-2022, rMIS was performed for 36 tumors out of 125 procedures conducted for NB (30%). Patients (n=32) had a mean age of 6,5 years (10M-16Y), half of them were younger than 5 years. Mean body weight was 27 kg (7,7 kg-82 kg). 58% of these tumors were neuroblastomas (9 M and 2 MS), 22% ganglioneuroblastomas and 20% ganglioneuromas. Locations were mainly adrenal (53%) followed by mediastinal (19%). IRDFs were present at the day of surgery in 36%, 12 with one IRDF, one with two, consisting mainly in vascular encasement. One conversion to open surgery was necessary. No major complication occurred. Mean hospital stay were 3 days. Macroscopic complete resection was achieved in all cases.

Conclusions: We demonstrate that rMIS is a safe and useful option for selected neuroblastic tumors. The advantage of the robot broadens the field of indications for MIS to L2 tumors, with contacts or encasement of the vessels and thus benefit to a larger number of patients.

ON07_SO / 11:25 – 11:30

HEPATIC HEMANGIOMAS: A DEVIL IN DISGUISE

Isabel González-Barba Neira, Sergio López Fernández, Jose Andrés Molino Gahete, Marta Martos Rodríguez, Gabriela Guillén Burrieza, Mercedes Pérez Lafuente, Manuel López Paredes
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Abstract

Aim of the Study: Hepatic hemangiomas (HH) are usually asymptomatic self-limiting lesions. However, not all exhibit a benign natural course, and some develop life-threatening complications. Our objective was to analyze the role of superselective embolization (SSE) in the treatment of symptomatic voluminous or non-responsive HHs.

Methods: Retrospective review of patients with HH treated at our center between 2008 and 2022. Collected variables include patients' age, gender, lesion type, SSE indication and follow-up.

Main results: A total of 32 patients (14 male/18 female) were diagnosed with HH during this period of time, 3 had a prenatal diagnosis (9.4%), whilst the remaining 29 patients (90.6%) were diagnosed at a mean age of 66.7±63.4 days. Nineteen patients (59.4%) presented focal forms, 11 multifocal (34.4%) and 2 diffuse (6.2%). SSE was indicated, after documenting the presence of high-flow intrahepatic shunting, in patients with congestive heart failure (CHF): 3 with voluminous focal lesions and 1 with multifocal lesions who presented CHF despite receiving steroids and Vincristine. In 2 patients SSE was performed twice (8 and 40 days after the initial procedure). SSE led to hemodynamic stabilization in 3 successful cases (75%). Mean follow-up was 4.86±2.02 years. One patient (25%) presented irreversible hemodynamic instability during SSE. The necropsy revealed pulmonary and systemic microsphere embolism.

Conclusions: HH can develop life-threatening complications, regardless of the lesion type. The availability of a tailored multidisciplinary approach, including SSE, is crucial in the management of patients with severe symptoms.

ON08_SO / 11:30 – 11:35

CONTACT VS. INVASION

Hilmican Ulman[1], Egemen Öztürk[2], Eda Ataseven[3], Bengü Demirağ[4], Deniz Kızmazoğlu[5], Zafer Dökümcü[1], Yeşim Ertan[6], Nur Olgun[7], Ahmet Çelik[1]
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Abstract

Aim of the Study: Image Derived Risk Factors (IDRF) define even contact with the renal pedicle as IDRF(+), making it the most common IDRF. However, this causes the patients to receive unnecessary chemotherapy instead of undergoing safe primary excision. We evaluated contact vs. invasion of the renal pedicle separately, and their effects on complication rates and survival.

Methods: Patients operated for neuroblastoma between 2003-2020 were included. The radiological images of the patients were re-evaluated by a radiologist for IDRFs. Surgical and oncological data were collected retrospectively.

Main Results: A total of 109 patients whose renal pedicle IDRF was evaluated are divided into groups according to IDRF details and their survivals are given in Table.1. It was found that contact with the renal pedicle didn't cause a significant difference in intraoperative complications (p=.617) and surgical complications (p=.485) when compared with negative IDRF. Tumor invasion of the renal pedicle was associated with worse survival compared to IDRF negativity. However, only contact of the tumor with the pedicle has a similar survival rate with IDRF negativity. This analysis was also valid for patients <18 months of age (p=1).

	n	Overall Survival	
0. Negative renal pedicle IDRF	48	%89,6	0-1 p<.0001
1. Invasion of renal pedicle	48	%56,3	
2. Contact with renal pedicle	13	%84,6	0-2 p=.707* 1-2 p=.033

Conclusions: Neuroblastomas that only have contact with the renal pedicle have a similar course with IDRF-negative tumors. These tumors should be classified IDRF-negative instead, unlike tumors that invade the renal pedicle.

ON09_SO / 11:35 – 11:40

THE EFFECT OF BODY MASS INDEX ON PERMANENT TUNNELED INTRAVASCULAR CATHETER COMPLICATIONS IN PEDIATRIC PATIENTS

Efil Aydın[1], Oktay Ulusoy[2], Cansu Kural[2], Oğuz Ateş[2], Gülce Hakgüder[2], Mustafa Olguner[2], Feza Miraç Akgür[2]
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Abstract

Aim of the Study: Permanent tunneled intravascular catheters (PTIC) are increasingly used in children. Although the effects of body mass index (BMI) on complications in different surgical procedures in children have been studied, there is no study evaluating the effects of BMI on management of PTIC. Herein, we aimed to evaluate the correlation between BMI and complications seen in children with PTIC.

Methods: Patients who underwent PTIC placement between 2006 and 2022 were analyzed retrospectively. Demographic characteristics, underlying diseases, catheter indications, surgical reports, BMI values and complications were evaluated. BMI values were evaluated in five groups according to percentile (p) ranges. Results were statistically analyzed and a p-value <0,05 was considered statistically significant.

Main results: 400 patients were included in the study – 182 female (45.5 %) and 218 male (54.5 %). Intravascular catheter line-associated bloodstream infection (CLABSI) and wound infection (WI) were the most common complications. The BMI percentile groups were <3 p, 3-15 p, 15-85 p, 85-97 p and >97 p, containing 26, 26, 259, 58, 31 patients respectively. CLABSI was found to be highest in the <3 p group (13 patients 50 %). As BMI decreased, CLABSI rates have been found to be significantly increased (p <0.001). WI was found to be highest in the >97 p group (17 patients, 44.7 %). WI rates were found significantly higher as the patients BMI increases (p <0.001).

Conclusion: While patients with higher BMI are at more risk of WI, the risk of CLABSI decreases. It appears that BMI has a protective effect on CLABSI.

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ON10_SO / 11:40 – 11:45

T-CELL THERAPY IN PEDIATRIC SOLID TUMORS: PRELIMINARY DATA OF A PROSPECTIVE STUDY

Marta Gazzaneo[1], Cristina Belgiovine[1], Alessandro Raffaele[2], Patrizia Comoli[1], Marco Zecca[2], Giovanna Riccipetitoni[1]
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Abstract

Aim of the Study: Pediatric solid tumors are characterized by low level of infiltrating T-cells (TILs) and low mutational burden. Despite the improvement in treatments, metastatic and relapsed disease remains fatal in many children. The development of novel, effective therapies is required to prolong patients' survival. This project aims to investigate the role of immune cell therapy specific for solid pediatric cancer.

Methods: With Ethical Committee approval, we created in the last 6 months, a library of pediatric solid tumor cells, TILs, and TAMs (Tumor-associated macrophages), collecting tumor samples from patients undergoing surgery. In all samples, T-lymphocytes, able to kill tumor cells, are activated in vitro, via known tumor antigens (wt1, PRAME, and survivin) or patients' lysate. To test their effective cytotoxicity, we use ELISPOT assay and cytokine releases FACS analysis.

Main results: To date, we have investigated 12 neoplasms: 9 solid tumors and 3 lymphomas. Among these, only 5 showed the ability to grow in vitro: 2 neuroblastomas, 2 lymphomas, and 1 sarcoma. In parallel, we activated healthy lymphocytes both with the antigens and with the tumor lysate and we obtained an increase in IFN-gamma and TNF-alpha release. Hence, wt1, PRAME, and survivin induced lymphocytes to produce killing cytokines.

Conclusions: These preliminary results are promising in vitro lymphocyte activation induces a cytotoxic response that could be able to kill tumor cells. Further data on a larger series of patient-collected tumor lines and extended research are required to definitively demonstrate that lymphocyte activation can be effective in killing cancer cells.

ON11_SO / 11:45 – 11:50

LYMPHATIC MALFORMATIONS IN PARKES WEBER SYNDROME: RETROSPECTIVE REVIEW OF SIXTEEN CASES IN A VASCULAR ANOMALIES CENTER

Julio César Moreno Alfonso[1,2], Irune Méndez Maestro[3], Aniol Coll i Prat[3], Lara Rodríguez-Laguna[4], Victor Martínez-Glez[5], Paloma Triana[6], Juan Carlos López-Gutiérrez[6]
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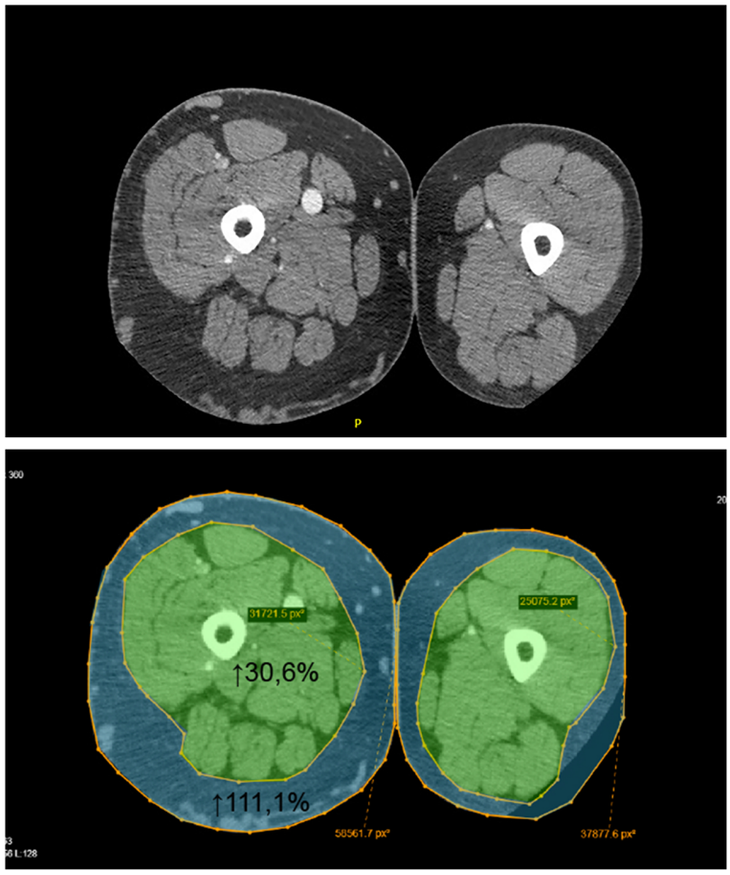
Abstract

Aim of the Study: To describe a series of patients with Parkes Weber syndrome (PWS) to analyze their association with lymphatic malformations (LM) and their role in limb asymmetry.

Methods: Retrospective study of patients diagnosed with PWS in a Vascular Anomalies Center from 1994 to 2020. Clinical data were obtained from medical records including diagnostic imaging, lymphoscintigraphy and genetic testing. The Institutional Ethics Review Board has approved this study.

Main results: A total of 16 patients aged 18 IQR 14.7 years diagnosed with PWS were included (50% female). Six of the 16 patients with Parkes Weber syndrome had clinical and imaging data suggestive of lymphatic malformation (37.5%) and three of them had genetic variants in RASA1 (2/3) or KRAS (1/3). Limb asymmetry was greater in patients with isolated PWS (2.6 ± 0.8 cm) than in the PWS-LM population (2 ± 0.7 cm), although not significant (p= 0.247) (Figure). One in six patients with PWS-LM required amputation (16.6%) versus 1/10 in isolated Parkes Weber syndrome (10%).

Conclusions: Lymphatic malformations may be present in a significant number of patients with PWS and could have a role in limb asymmetry and outcomes. It is paramount to investigate their existence and distinguish them from true overgrowth.



Top: Enlargement of right lower extremity at expense of fatty subcutaneous tissue with lesser contribution of intracompartmental fatty component. Skin thickening and subcutaneous tissue edema suggesting lymphedema. Bottom: Subcutaneous tissue of the right limb is 111.1% higher than in contralateral limb and the muscular compartment is only 30% higher.

ON_SO_12 / 11:50 – 11:55

ROBOTIC VERSUS OPEN ADRENALECTOMY FOR TUMORS IN THE PEDIATRIC POPULATION: EVALUATION OF EFFICACY, SAFETY AND PERI-OPERATIVE OUTCOMES

Thibault PLANCHAMP[1], Ichrak Belbahri[1], Jessica Pinol[2], Giulia Fusi[3], Marion Gambart[1], Aurélie Le Mandat[1], Olivier Abbo[1]
[1]Hôpital des Enfants, Toulouse, France. [2]La Timone Children Hospital, Marseille, France. [3]University of Siena, Siena, Italy

Abstract

Aim of the Study**:** Pediatric adrenalectomy for tumor is rare. It has been most often managed by an open approach (OA) in our institution. Robot-assisted laparoscopic adrenalectomy (RALA) has been used since 2018 for the management of patients. Our objective was to assess the efficacy, safety, and follow-up of all RALA for pediatric tumor, and compare them to those managed by an OA.

Methods**:** Data from all the children robotically operated on for adrenal tumors in our institution between 2018 and 2022, as well as data for all OA were prospectively recorded. Our primary outcome was the resection quality. Secondary ones included operative time (OT), pain killer consumption, length of hospital stay (LOS), complication rate and healing defined by the absence of recurrence at one year.

Main Results**:** A total of 24 patients was included in this study. None of the two approaches showed superior results for resection quality, mean OT and intra- and postoperative complications. LOS was significantly shorter for RALA than OA (2.6 ± 1.4 vs 6.6 ± 1.9 days; $P < 0.0001$****) as was pain killer consumption, especially morphinics (0 vs 2.8 ± 1.5 days; $P < 0.001$***). The 1-year disease free and overall survival rates for OA and RALA were 92.8% and 100% respectively.

Conclusion**:** This study showed that RALA gave similar outcomes in terms of efficacy, OT and safety compared with OA. Moreover, RALA seems to lead to less painful surgical suites with a significative decrease of morphinics consumption, and shorter hospital stay than the OA.

ON13_SO / 11:55 – 12:00

DENYS DRASH SYNDROME IN CHILDREN: THE IMPACT OF WILMS TUMOUR ON OUTCOMES

Mathilde GLENISSON[1], Mathilde GRAPIN[1], BLANC Thomas[1], Véronique MINARD[2], Daniel ORBACH[3], Laurence HEIDET[1], Olivia BOYER[1], DORVAL Guillaume[1], Sabine SARNACKI[1]
[1]Hôpital Necker-Enfants Malades, Paris, France. [2]Institut Gustave Roussy, Villejuif, France. [3]Institut Curie, Paris, France

Abstract

Aim of the Study: Denys Drash syndrome (DDS) is caused by WT1 mutations and is associated with a high risk of Wilms tumour (WT) and diffuse mesangial sclerosis leading to end-stage renal disease (ESRD). Onset of disease is variable, and there is a wide clinical spectrum with a genotype to phenotype correlation. The aim of the study was to assess the impact of WT on the outcomes of children with DDS.

Methods: Patients with a mutation of WT1 in exons 8 or 9 were included between 2001 and 2020. Other mutations were excluded. Charts were reviewed retrospectively.

Main results: Thirty children were identified, 8 with a Wilm's tumor (WT+ group), and 22 without (WT- group). Median age at WT diagnosis was 15 months (IQR 11-20). Only one patient had a diagnosis of DDS preceding their diagnosis of WT. Patients in the WT+ group developed later ESRD at a median age of 1.5 years (IQR 1.2-7.4) versus 0.5 years (IQR 0.3-1) (p=0.01). Overall survival was better in the WT+ group (Log-rank: p=0.02). Median age at last follow-up was 7.3 years (IQR 0.8-10.7); 11.1 years (IQR 6.6-15.4) in the WT+ group and 4.5 years (IQR 0.4-8.8) in the WT- group.

Conclusions: Patients with DDS and WT have a later progression to ERSD and a better overall survival. In the WT- group, ERSD leads to a poor prognosis with excess mortality, which may relate to the morbidity of neonatal dialysis and complications linked to the of nephrotic syndrome.

13:30 - 14:30

Poster Presentation Session 16

Case Reports IV

(M2) Studio 1+2

Chair: Ophelia Aubert (GER)

Jozef Babala (SVK)



CR28_PO / 13:30 – 13:35

DOES THE PERSPECTIVE REALLY MATTER? CHALLENGES IN THE DIAGNOSIS OF CHRONIC GASTRIC VOLVULUS IN FOURTEEN-YEAR-OLD FEMALE PATIENT AFTER HEART TRANSPLANTATION.

Wojciech Rogula, Bartosz Bogusz, Joanna Godlewska, Wojciech Górecki
Department of Pediatric Surgery, Jagiellonian University Medical College, University Children's Hospital of Krakow, Kraków, Poland

Abstract

Aim of the study: Gastric volvulus is condition characterized by rotation of the stomach and may be acute or chronic. Rotation of the stomach causes complete or partial obstruction. Diagnostic evaluation is based upon radiologic investigations and endoscopic examination. The objective of this case report is to highlight this unusual condition to avoid incorrect diagnosis.

Case description: A fourteen-year-old female patient was presented to the hospital with gastrointestinal obstruction. The case was known in order to previous multiple hospital admissions due to recurrent abdominal pain associated with vomiting and diarrhea. She underwent orthotopic heart transplant in November 2010 due to congestive cardiomyopathy after cardiosurgical intervention for ventricular septal defect closure. Moreover, in 2020 the investigation revealed dissecting aneurysm of the aorta with concomitant stricture of celiac trunk which was subsequently managed by intravascular stent placement. Preliminary results of computed tomography of abdominal cavity were focused only on splanchnic blood flow and gastric dilation. However, after reassessment confirmed by subsequent gastroscopy, and initial diagnosis of gastric volvulus was made. The case was submitted for laparoscopic procedure and three-point gastropexy to the abdominal wall was made. Postoperative treatment was uneventful. Retrospective analysis of previous computed tomography examinations revealed not only the gastric dilation but the gastric volvulus as well.

Conclusions: Extremely complex and concomitant medical conditions and variability of presenting complaints contributed to delay of definitive surgical treatment for gastric volvulus. Thus, indispensable prerequisites for situational awareness are a sound knowledge of the anatomy and a thorough understanding of the gastric volvulus.

CR29_PO / 13:35 – 13:40

STERNAL OSTEOMYELITIS IN CHILDREN: CASE SERIES

Tunç Tiğli[1], İdil Rana User[1], Burak Ardiçli[1], Mithat Haliloğlu[2], İbrahim Karnak[1], Diclehan Orhan[3], Saniye Ekinci[1]
[1]Hacettepe University, Faculty of Medicine, Department of Pediatric Surgery, ANKARA, Turkey.
[2]Hacettepe University, Faculty of Medicine Department of Pediatric Radiology, ANKARA, Turkey.
[3]Hacettepe University, Faculty of Medicine Department of Pediatric Pathology, ANKARA, Turkey

Abstract

Aim of the Study: Sternal osteomyelitis forming cold abscess is a rare infection seen mostly in adult patients with history of cardiac surgery, thoracic trauma, or immunosuppression. Causative organism can be isolated in some cases and can be staphylococcus aureus, fungal or mycobacterium species.

Case description: We present case series of 4 infants diagnosed with sternal osteomyelitis without the history of trauma, surgery, or immunosuppression. All the patients were male and aged between 5-18 months. Presenting symptom was painless lump. Physical examination revealed painless hyperemic immobile nodule located over sternum. All patients had BCG vaccination and scars on their arms. Ultrasonography was the first imaging modality in all followed by magnetic resonance imaging and computed tomography to detect extension into soft tissue and mediastinum, associated bone, and pulmonary involvement. White blood cell count and acute phase reactants were not elevated. Surgical exploration revealed thick abscess wall adherent to sternal periosteum and muscles. We excised abscess wall, debride necrotic tissue, and sampled for microbiology. Pathology results showed granulomatous inflammation in 3 patients and mycobacterium tuberculosis was isolated in 2 of them. Other child had osteonecrosis, histiocytic inflammation, and acute osteomyelitis. Methicillin-resistant staphylococcus aureus was detected in pus aspirate. Patients were evaluated for immune deficiency syndromes but all were immunocompetent. Anti-tuberculosis treatment was used 6 months in 2 patients with microbiologically proven diagnosis. Other patients received 6 weeks intravenous antibiotic treatment.

Conclusions: Sternal osteomyelitis is a rare manifestation of tuberculosis. However, it is not the only causative agent. Surgery has a role in tissue sampling and debridement of infectious tissue.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR30_PO / 13:40 – 13:45

SPONTANEOUS RUPTURE OF A TYPE 4A CHOLEDOCHAL CYST IN A 1-YEAR OLD INFANT: MANAGEMENT OF A RARE COMPLICATION

Jan Sabo[1], Ines Moraleda[1], Abdulla Sahloul[1], Simone Kathemann[2], Michael Berger[1]
[1]Pediatric Surgery Department, Essen, Germany. [2]Pediatric Gastroenterology Department, Essen, Germany

Abstract

Aim of the Study: Choledochal cysts are rare congenital malformations of the biliary tract. Typically, they become symptomatic at young age and diagnosis and therapy via resection are straight forward. One rare complication is spontaneous perforation. Here, we report a case of a 1-year-old infant with spontaneous perforation of the cystically transformed bile duct resulting in life-threatening pancreatitis and peritonitis.

Case description: The child was a previously healthy 1-year old girl transferred to our center with an unclear first episode of cholangitis. Abdominal ultrasound and laboratory analysis revealed a dilatation of the intrahepatic bile ducts mimicking Caroli disease (choledochal cyst type 5) with accompanying pancreatitis and increasing ascites over the following days. She was initially treated by antibiotics and subsequently underwent ascites puncture showing elevated pancreas enzymes. Due to clinical deterioration, she underwent surgical exploration and a large rupture of an extrahepatic choledochal cyst formation (type 4a) was found as the culprit. She underwent biliary-digestive anastomosis via roux-y-reconstruction. She is now 1 year out and well.

Conclusions: Spontaneous perforation of choledochus cyst is a rare but potentially life-threatening complication that needs to be detected and treated as soon as possible to prevent further complications and to preserve an adequate long-term outcome in these patients.

CR31_PO / 13:45 – 13:50

ILEAL ATRESIA AND TOTAL COLONIC HIRSCHSPRUNG DISEASE IN A 36-WEEK NEONATE: A CASE REPORT

Khashayar Atqiaee[1], Mehran Hiradfar[1], Mehdi Parvizi Mashhadi[1], Ali Samady Khanghah[2]
[1]Department of Pediatric Surgery, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran, Islamic Republic of. [2]Department of Surgery, Ardabil University of Medical Sciences, Ardabil, Iran, Islamic Republic of

Abstract

Aim of the Study: Introduction of a rare concurrency in a case of Ileal atresia with poor bowel function after the corrective operation

Case description: This report delineates a 36-week newborn with ileal atresia and total colonic Hirschsprung. A newborn male (birth weight,2500 grams) was referred to our unit because of failure of meconium passage during the first 48 hours after birth, abdominal distension, and bilious vomiting. Physical examination revealed a prominent abdomen and an empty rectum in digital rectal examination. Initial abdominopelvic radiography revealed Thumb-sized intestinal loops with no gas in the rectum. Intraoperative findings were Ileal atresia with a proximal dilated, blind-ending 1cm distal bud attached to the ileocecal region (Type IIIa). All parts of the large bowel were unused (Figure 1). Surgery was followed by an end-to-end ileo-ascending colonic anastomosis. Permanent Hematoxylin & Eosin pathological examination revealed the absence of ganglion cells in the cecum, the appendix, and the rectum and the abundance of ganglia in the ileum. The patient was a candidate for an ileostomy and colonic mucus fistula bypass because of the persistence of abdominal distention and no defecation on postoperative days, the final permanent pathology studies by calretinin test disclosed total aganglionic colon Hirschsprung. Swenson pull-through surgery with removal of the total colon and ileoanal anastomosis was performed on a three-month-old. The case tolerated oral feeding after five days.

Conclusions: Colonic aganglionosis should be in mind in any operated infant with a small intestinal atresia repair who continues to exhibit poor bowel function after corrective surgery

CR32_PO / 13:50 – 13:55

ABDOMINAL WALL DYSPLASIA: A RARE CASE OF CONGENITAL ABDOMINAL WALL HERNIA

Ahmed Hassan
Bns Specialized Hospital, Bani Sueif, Egypt

Abstract

Aim of the Study: Case description of abdominal wall dysplasia.

Case description: A preterm 28-week gestation boy was born to a 24-year-old healthy mother as a second sibling (the first was a healthy girl) with limited antenatal care. His birth weight was 1.9 Kg, he was admitted to our NICU because of RD 16 days later. Initial examination demonstrated a large skin-covered epigastric mass, measuring 4 × 4.5 cm, increasing in size with cry and bowel loops can be felt, moreover, the edge of the defect was easily palpable. Umbilical ring was normal in site and shape. Radiological evaluation showed lack of the abdominal wall musculature over the defect, with presence of well-defined sac, other abdominal and thoracic organs were normal. Surgical exploration was postponed until 3 months old allowing the boy to gain weight. Exploration revealed a hernial sac measuring 4 × 4.5 cm with a rim of surrounding fascia. There was no evidence of solid organ herniation. No bowel malrotation was detected. Fascial defect was approximated without tension and was closed primarily in an interrupted suture manner. The patient did well and was discharged home 3 days postoperatively. Fellow up continued for a year postoperative to confirm that no recurrence.

Conclusions: Abdominal wall dysplasia is caused by an increase in cell death by apoptosis in body wall placode, resulting in a thin abdominal wall. Finally, we conclude that this type of malformation, should be included in the differential diagnosis of abdominal wall defects.

CR33_PO / 13:55 – 14:00

LAPAROSCOPIC GASTRODUODENOSTOMY FOR PYLORIC STENOSIS DUE TO CORROSIVE INGESTION IN A TEN-YEAR-OLD BOY: A CASE REPORT

Merve Bülbül, Pari Khalilova, Fırat Serttürk, Ergun Ergun, Ahmet Murat Cakmak, Gulnur Gollu Bahadır
Ankara University, Faculty of Medicine, Department of Pediatric Surgery, Ankara, Turkey

Abstract

Aim of the study: Ingestion of corrosive substances in children is important medical problem and difficult to manage. Complications may occur due to corrosive ingestion; those should be followed throughout life and affect the quality of life. The most important long-term problem is the formation stricture. Although stricture often develops in the esophagus, stenosis may also develop in the pylorus. In this study, it was aimed to present the management of a patient who developed isolated pyloric stenosis due to corrosive substance inegestion.

Case description: A ten-year-old male patient was admitted to the emergency department due to corrosive substant ingestion. The child was observed and discharged on the 3rd day of hospitalization. Since oral mucosa and orophaarynx was damaged endoscopy was not performed to avoid further injury. The contrast study revealed normal esophageal lumen with slow gastric emptying. Endoscopic examination revealed stricture formation at the pylorus. It was decided to perform laparoscopic gastroduodenostomy. After suspending sutures were placed proximal to the pylorus and to anterior wall of duodenum. The stomach lumen was opened horizontally, and duodenum lumen was opened vertically. Diamond shape anastomosis was performed. Contrast study on the fifth postoperative day was normal. The child has been fed and discharged on the postoperative 8th day. Six months of follow up period was uneventful.

Conclusions: Laparoscopic gastroduodenostomy allows early enteral feeding without dumping symptoms in addition to the general advantages of minimally invasive surgery. Therefore, it may be preferred as a safe method in pyloric stenosis due to corrosive ingestion.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR34_PO / 14:00 – 14:05

RECTAL STENOSIS AND HIRSCHPRUNG DISEASE: A RARE ASSOCIATION

Elena Ruggiero[1,2], Elena Sofia Marcandella[1,2], Cinzia Zanatta[1], Ivana Cataldo[1], Paola Midrio[1,2]
[1]Ca' Foncello Hospital, Treviso, Italy. [2]University of Padua, Padua, Italy

Abstract

Aim of the Study: Rectal stenosis (RS) represents 1-2% of anorectal malformations (ARM). Hirschsprung disease (HD) is a rare intestinal malformation. We report a case of RS and HD association.

Case description: A 2 days-old infant boy was admitted due to vomiting and late meconium passage. During admission the symptoms spontaneously regressed, and the infant discharged. After a few days the patient was readmitted for vomiting. An upper gastrointestinal contrast study resulted normal, and a contrast enema showed rectal distension. To investigate HD, suction rectal biopsies were scheduled but the biopsy gun did not progress more than 3 cm from the anus. At a rectal examination RS was detected. Rectoscopy showed an annular SR and full thickness biopsies were taken proximal to the stenosis that confirmed HD. Magnetic resonance excluded sacral masses and vertebral anomalies. At 5 months of life the infant underwent surgery. Laparoscopic biopsy of the rectum-sigmoid confirmed aganglionosis and the rectum was mobilized below the peritoneal reflection. In prone position, the posterior rectal wall was dissected up to the stenosis, a circumferential mucosal dissection performed 1 cm above the dentate line and the colon pulled through. The anastomosis was performed between the proximal sigma and the anal canal anteriorly and between colon and skin posteriorly.

Conclusions: The co-occurrence of HD and RS has never been previously reported. Due to the characteristics of both malformations, it was possible to respect the anal canal only anteriorly and a standard colo-skin anastomosis was required along the posterior circumference.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR35_PO / 14:05 – 14:10

A RARE SYNDROME ASSOCIATED WITH TOTAL COLONIC AGANGLIONOSIS: BRESHECK SYNDROME

Silvia Perin[1,2], Riccardo Guanà[1], Federico Scottoni[1], Luca Lonati[1], Salvo Garofalo[1], Fabrizio Gennari[1]
[1]UOC Chirurgia Pediatrica, PO Ospedale Infantile Regina Margherita, Città della Salute e della Scienza, Torino, Italy. [2]UOC Chirurgia Pediatrica, Woman and Child Health Department, University of Padua, Padova, Italy

Abstract

Aim of the Study: BRESEK/BRESHECK syndrome is a very rare multiple congenital malformation, firstly described in two half-brothers in 1997 by Reish. So far only six cases have been described, all in boys, confirming the original suspect of an X-linked origin, later demonstrated by the discovery of the causing mutation in MBTPS2 gene. Severe dysplastic kidney disease, leading to Potter sequence in utero, is the main cause of early death. We present here the case of a 9-years-old boy diagnosed at birth with BRESHECK syndrome with mutation c.1286G>A (p.Arg429His) on the MBTPS2 gene.

Case description: The patient was referred to our hospital for total colonic aganglionosis, subjected to total colectomy with ileostomy creation and subsequent stoma closure with ileo-anal anastomosis. The patient underwent bilateral orchidopexy, surgical correction of cleft palate and micrognathia, and has ichthyosis, atrichia, mental retardation, hypoplasia of the corpus callosum, ectasia of the subarachnoid spaces, lack of posterior closure of foramen magnum, dorso-lumbar kyphotic angulation, widening of the vertebral canal and cardiac anomalies. Failure to thrive has been one of his main clinical problems, requiring periodical nocturnal parenteral nutrition and mixed oral/nasogastric enteral nutrition. Gastrostomy was proposed but refused by parents. His current weight is 20kg (4th percentile, z-score 1.78). Moreover, periodical botulinum intra-sphincteric injections for anal sphincter hypertonus, daily nursing for frequent intestinal occlusions and periodic antibiotic therapy for Clostridium Difficile enteritis were required.

Conclusions: This patient represents one of the longest survivors of BRESHECK syndrome, possibly due to the absence of severe kidney disease.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR36_PO / 14:10 – 14:15

SUPERIOR MESENTERIC ARTERY SYNDROME IN YOUNG GIRL WITH MASSIVE GASTRIC DILATATION

Vilija Valatkaitė[1], Paulius Valatka[2]
[1]Vilnius University, Faculty of Medicine, Vilnius, Lithuania. [2]Department of Children's Surgery, Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania

Abstract

Aim of Study: Superior mesenteric artery (SMA) syndrome is a rare condition with an incidence ranging from 0.01% to 0.3%. Compression of the duodenum between the SMA anteriorly and the aorta posteriorly results in gastrointestinal obstruction. The onset of this pathology is usually associated with rapid weight loss or surgical intervention that distorts the anatomy. This case represents a SMA syndrome in young girl with no apparent risk factors.

Case description: A 12-year-old female was referred to the hospital due to abdominal pain, bilious vomiting, and abdominal distention; 3 liters of green fluid was drained from her stomach at the previous hospital. Primary abdominal ultrasound and contrast enhanced X-rays showed a severely dilated stomach full of fluid. Abdominal CT scans demonstrated a significant dilatation of stomach and duodenum up to the level of the third part, showing partial obstruction in the distal part of the duodenum before passing into the jejunum. The repeat ultrasound showed a narrowed aorto-mesenteric angle of 11-14 and revealed a diagnosis of superior mesenteric artery syndrome. The laparoscopic duodenojejunostomy was performed. The postoperative course was uneventful. At two months follow-up abdominal X-rays showed decreased gastric volume and normal bowel passage. The patient had no gastrointestinal complains.

Conclusions: SMA syndrome is a challenging diagnosis because of its rarity and overlap with other gastrointestinal conditions. It is important to keep in mind that in pediatric cases, SAM syndrome can occur in the absence of obvious risk factors and may be associated with growth spurt without weight loss.

CR37_PO / 14:15 – 14:20

RUPTURED ECHINOCOCCUS CYST OF THE LUNG. DESCRIPTION OF TWO CASES

Ioanna Gkalonaki, Michail Anastasakis, Evangelia Schoina, Ioannis Trevlias, Ioannis Patoulias
First Pediatric Surgery Department, Aristotle University of Thessaloniki, General Hospital of Thessaloniki "G.Gennimatas", Thessaloniki, Greece

Abstract

Aim of the Study: Complications of pulmonary echinococcosis depend on whether the cyst has been raptured into the bronchus or pleural cavity. We aim to describe two cases of ruptured lung echinococcus (RLEC).

Cases description: 1) A 13-year-old girl was admitted to the pediatric department due to hemoptysis and a two-month cough. Lung X-ray revealed a large cyst in the the right lung. Diagnosis was confirmed serologically. Albendazole was administered for 3 weeks and elective surgery was planned. After a week she was readmitted to the hospital urgently due to RLEC. Through a thoracotomy, removal of the cyst and capitonnage of the residual cavity was performed. Due to multiple bronchial lacerations, which were sutured, the girl was hospitalized in the PICU. The patient was discharged after 14 days in excellent condition. 2) A 7-year-old boy was referred to our department due to a RLEC of the upper lobe of the left lung. He was receiving perioperatively10mg albendazole. A thoracotomy was performed and removal of the cyst and capitonnage of the residual cavity followed. The boy was discharged after 7 days in excellent condition. Both patients received anthelmintics for 6 months and remained asymptomatic, with no evidence of recurrence.

Conclusions: Adjunctive anthelmintic treatment, pre-, and post-operatively, reduces the risk of recurrence while reducing cyst tension. Anthelmintics are essential in disseminated disease and in high-risk patients. RLEC makes the operation particularly demanding, with surprises regarding the extent and severity of the communication with the bronchial tree.

CR38_PO / 14:20 – 14:25

CONGENITAL SEGMENTAL INTESTINAL DILATATION (CSID): A RARE CAUSE OF ABDOMINAL PAIN

M.G. TORO-RODRIGUEZ, J. GONZALVEZ-PIÑERA, M. DORE, C. DE-LA-SEN-MALDONADO, V. DIAZ-DIAZ, A. HERNANDEZ-HERNANDEZ, L. GRACIA-SAENZ, A. ENCINAS-GOENECHEA
HOSPITAL GENERAL UNIVERSITARIO DE ALICANTE "DR. BALMIS", ALICANTE, Spain

Abstract

Aim of the Study: Misdiagnosis in chronic abdominal pain can lead to significant morbidity. Our aim is to present the clinical case of a girl with 10 years of misdiagnosis due to recurrent abdominal pain, due to a congenital anomaly.

Case description: A thirteen-year-old girl presented to the outpatient clinic with a history of chronic abdominal pain that began at 3-yrs of age. Other symptoms included loss of appetite, asthenia, and changes in bowel movements (diarrhea/constipation). This situation resulted in school absenteeism and bullying. During multiple evaluations a myriad of diagnoses were made: cow-milk protein allergy, fructose and lactose intolerance, celiac disease and functional pain. Targeted treatments and diets were indicated but did little to improve symptoms. Prior to referral, a new work-up included an MRI which showed a Meckel's diverticulum, however, the 99Tc-pertechnetate scintygraphy was inconclusive. Gastroduodenoscopy and ileocolonoscopy were negative. After inconclusive findings, an abdominal laparoscopic exploration was performed. A highly dilated intestinal segment followed by a calibre decrease of around 30% was found. No intrinsic/extrinsic causes were identified. A 30 cm bowel resection and primary anastomosis were performed. Pathology showed severe bowel dilation (9cm) with a thin and ulcerated wall in approximately 28 cm followed by a 1.2 cm long calibre decrease. After a 3 month-follow-up, the patient's abdominal symptoms have improved.

Conclusions: CSID is an inconspicuous cause of abdominal pain, which can mimic different clinical entities and can significantly affect the quality of life of pediatric patients until surgically excised.

CR39_PO / 14:25 – 14:30

Robotic duodenojejunostomy for idiopathic superior mesenteric artery syndrome: a rare case in pediatric surgery

Thibault Planchamp[1], Ichrak Belbahri[1], Soléne Joseph[1], Vincent Foulonneau[2], Olivier Abbo[1]
[1]Hôpital des Enfants, Toulouse, France. [2]Hôpital Rangueil, Toulouse, France

Abstract

Aim of the Study**:** Superior mesenteric artery syndrome (SMAS), also known as Wilkie's syndrome, is a rare cause of proximal bowel obstruction, resulting from the compression of the third part of the duodenum by the superior mesenteric artery. Surgical treatment is required in case of failure of conservative management or in chronic cases. Often a consequence of hypercatabolism, severe malnutrition, anatomical predispositions, or after a surgery, it may be idiopathic which is the case of our patient.

Case presentation**:** We report the case of a 15-year-old girl with normal BMI, without previous medical history, admitted in our service for proximal bowel obstruction syndrome. An abdominal CT-scan discovered a SMAS, with an aortomesenteric angle of 17°, and distance of 4 mm. Diagnosis was confirmed by an upper gastrointestinal tract radiography. A medical management was first tried with a nasogastric tube and high caloric diet. Despite medical management, symptoms persisted. A robotic-assisted duodenojejunostomy (RADJ) was realized without intra- or post-operative complications. She felt immediate relief of her complaints and was discharged on post-operative day 4. No etiology was found. She continues to do well on 5-year follow-up.

Conclusions**:** This case report shows an idiopathic form of superior mesenteric artery syndrome that needed surgery. It highlights the necessity to think about that disease in front of a proximal bowel obstruction, even in a non-typical Wilkie's syndrome patient. Moreover, RADJ seems to be an effective and safe treatment for pediatric SAMS.

13:30 - 14:30

Poster Presentation Session 17

Case Reports V

(M2) Studio 1+2

Chair: Rim Kiblawi (GER)

Udo Rolle (GER)



CR40_PO / 13:30 – 13:35

SPONTANEOUS INFARCTION OF BREAST JUVENILE FIBROADENOMA: An EXTREMELY UNUSUAL CASE REPORT

Abdurrahman Azzam, Gökhan Arkan, Ramazan Karabulut, Zafer Türkyılmaz
Gazi University, Ankara, Turkey

Abstract

Aim of the Study: Juvenile fibroadenomas are a rare variant of all fibroadenomas. Infarction of fibroadenomas is very rare. To our knowledge this is the third reported case of spontaneous hemorrhagic infarction of juvenile fibroadenoma without predisposing factors.

Case description: A 14-year-old girl presented to our clinic with a palpable mass in her left breast, which she noticed one week ago. On examination, a mass approximately 2 cm in diameter and approximately 2 cm lateral to the areola, was palpated in the upper outer quadrant of the left breast. Deformity, redness, and tenderness were not detected in the breast. The patient has no family history of breast cancer, trauma, use of oral contraceptives, or previous breast intervention. In the ultrasonography, the mass was reported as a heterogeneous hypoechoic solid mass BI-RADS3. The patient was followed up with USG control every 6 months. In the final ultrasonography performed 22 months after first application, the mass was evaluated as BI-RADS 4A. In the surgery, a crescent-shaped incision was made in the left half of the left breast areola, and the 3.4x2x1.7 cm mass was excised in one piece and sent for pathological examination.

Conclusions: To our knowledge, there are 2 previously reported cases of spontaneous hemorrhagic infarction in juvenile fibroadenoma in the literature. In this case, we operated the patient because of her ultrasonographic evaluation BI-RADS-3 to BI-RADS-4A. The patient did not have a predisposing factor in her anamnesis. The excisional biopsy result was reported as juvenile fibroadenoma with hemorrhagic infarction.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR41_PO / 13:35 – 13:40

APPROACH TO A CASE WITH 46XX POSTERIOR CLOACA

Muhammed Hamidullah Çakmak[1], Ayşenur Celayir[1], Oya Demirci[1], Murat Kabaklioğlu[2]
[1]University of Health Sciences Turkey, Hamidiye Faculty of Medicine, Department of Pediatric Surgery, Istanbul Zeynep Kamil Women and Children's Diseases Health Training and Research Center, ISTANBUL, Turkey. [2]Düzce University, DÜZCE, Turkey

Abstract

Aim of the study: Here, it is aimed to draw attention to the examination and surgical treatment of posterior cloaca, that is a rare and complex malformation associated with sexual development disorder.

Case Description: The baby was born with suspicious genitalia, persistent cloaca and abdominal distension and her mother (G4,P1,T1,A1) had been treated due to Covid-19 in pregnancy. Uterus didelphys, hydrometrocolpos and bilateral HUN were determined by prenatally. In examination of perineum, urogenital sinus was located above the rectoperineal fistular anus. Discharge was achieved with anal dilatation. Bilateral hydrocolpos drainages were made with tube vaginostomies, urachus was excised and bilateral suspected streak gonad were seen in postnatal second-day by laparotomy. Cromozomal analisis revealed 46,XX. In the third month, by cystoscopy due to recurrent left hydrocolpos, was seen that right vagina opened to the back at 1.5cm to urogenital sinus orifice. Left blind vagina was fenestrated to the right vagina by resectoscop. A sigmoid colostomy was performed in 5-month old due to frequent urinary infections. Total urogenital sinus mobilization, blind double uretral excision, and double vaginal fenesteration were performed with anterior sagittal urethro-vagino-anoplasty in 1-year old. Colostomy was closed tree-month later. Follow-up is uneventful for one-year.

Conclusions: Posterior cloacal malformations require detailed diagnostic radiologic investigations, meticulous clinical examination and appropriate surgical management after chromosomal analysis. The main goal of the operation should be to total urogenital mobilization and preserve the anal canal. However, the management of patients should be individualized according to the anatomical structure and clinical presentation of each patient.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR42_PO / 13:40 – 13:45

THE BENEFIT OF THE PLASTIC SURGEON IN THE MANAGEMENT OF A PUBESCENT GIRL BORN WITH CLOACAL EXSTROPHY - A CASE REPORT

Jan Trachta[1], Omar Zeinedine[1], Stepanka Stankova[2], Radim Kocvara[3], Michal Rygl[1]
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Abstract

Aim of the Study: To present a case report of a girl after previous cloacal exstrophy repair who underwent perineal and genital surgery by a plastic surgeon at the age of 14 years.

Case description: The girl was born with cloacal exstrophy and underwent abdominal wall closure with the reconstruction of her hemi-bladder plates and permanent colostomy after birth. The primary closure was performed without pelvic osteotomy. She suffered wound dehiscence of the reconstructed bladder after three unsuccessful attempts of its secondary closure due to extensive pubic bones diastasis. We performed a complete replacement of the bladder with an ileal neo-bladder and the Monti catheterisable channel at the age of 10 years. The girl became socially continent in urine. However, the bladder plate and two entries of her duplex vagina left open onto the perineum further bothered the girl with chronic irritation, pain, and bloody mucous discharge to her underwear. At the age of 14 years, the mucosa of the bladder plate was excised, and the plastic surgeon performed rotational and V-Y skin flaps to form labial skin folds. The surgery succeeded in hiding the vaginal entries deeper and out of friction from the underwear. The patient healed well, without the need for pelvic osteotomy that is normally required to bring the tissues closer in patients with cloacal exstrophy.

Conclusions: The life-long management of patients with cloacal exstrophy is very challenging. A multidisciplinary team approach is needed and should take advantage of the plastic surgeon expertise where appropriate.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR43_PO / 13:45 – 13:50

A SIMPLE SOLUTION FOR THE UNEXPECTED, ABDOMINAL TUBERCULOSIS ABCESS CONFINED WITHIN THE GLISSON'S CAPSULE

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Abstract

Aim of the Study: Tuberculosis is a serious health problem which may present in unexpected forms of body involvement. Diagnosis and treatment require awareness in unusual anatomic presentations.

Case description: An adolescent boy was admitted with 5-6 cm soft but tender swelling on right upper abdominal wall, and weight loss for 3 months. The overlying skin looked normal, but upper abdomen was painful during palpation. His C-reactive protein was moderately high with mild leukocytosis and normal blood biochemistry. Abdominal USG revealed a cystic mass suggesting hydatid disease. Abdominal MRI revealed an 8x4x12 cm collection, resembling a shield covering the anterior wall of the liver, with multiple interconnecting abscesses extending into the liver tissue. Two additional tuberculous cavities and tree-in-bud image on chest CT were present. Wide-spectrum antibacterial treatment with metronidazole and albendazole was started. Percutaneous sample, obtained from a swelling, showed strong positivity for Entamoeba amebic antigen test. Further investigation revealed 3+ acid fast bacilli, positive PCR for tuberculosis and Mycobacterium tuberculosis isolated on culture. The collection was drained through two pigtail catheters, inserted under radiologic intervention. He was treated with 4 anti-tuberculous drugs (isoniazid, rifampicin, pyrazinamide, and ethambutol), which the isolate was susceptible to all of them. The patient is still under follow-up, collection free in control studies and in good health.

Conclusions: Treatment was effective through percutaneous sampling and drainage, sparing patient from unnecessary surgery. Indication for surgical intervention requires conservative approach, to limit possible complications due to delayed tissue healing, resulting from characteristic chronic inflammation in Tuberculosis.

CR44_PO / 13:50 – 13:55

TREATMENT PROTOCOL PROBLEMS IN THE OVERALL PROGNOSIS OF SOLID PSEUDOPAPILLARYNEOPLASM OF THE PANCREAS (FRANTZ´S TUMOR).

Cristina Domínguez García[1], Carolina Marañés Gálvez[1], Tomás Ferraris[1], Eduardo López Candel[1], Francisco Hernández Oliveros[2], Luis Alonso Jiménez[1]
[1]Hospital Universitario Torrecárdenas, Almería, Spain. [2]Hospital Universitario La Paz, Madrid, Spain

Abstract

Aim of the Study: Solid pseudopapillary neoplasm (SPN) of the pancreas is a rare entity with low malignant potential and excellent overall prognosis. It can appear in all population groups, even in children, being more frequent in females. Abdominal pain or mass is the most common presenting clinical feature. There is no chemotherapy treatment described for this tumor, but the surgical approach has very high successful rates. We present a clinical case in this regard.

Case description: A 10-year-old female is referred to us after radiological study of chronic abdominal pain. Ultrasound, CT and MRI describe a heterogeneous mass of 10 cm, depending on pancreatic tail. No other abnormalities were found. With high SPN diagnosis suspicion, she was operated using Warshaw technique. The only complication during surgery was the tumor rupture. After 2 years of follow up, new radiological studies have demonstrated some nodules affecting liver, pancreas head, peritoneum, and some other locations. The patient remains completely asymptomatic.

Conclusions: The follow up of the different lesions has shown that these nodules are growing up in size and number. The bibliography about these cases is very poor, with no evidence about the prognosis. It seems that the size, intraoperative rupture, and solid component are the main predictive factors of aggressive behavior. After reviewing the literature, the conclusion is to proceed with another surgical intervention to remove as many nodules as possible. The aim could be in understanding the immunohistochemical panel and get specific targets that would allow us to avoid surgery and its risks.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR45_PO / 13:55 – 14:00

A RARE CASE OF NECROTIZING FASCIITIS AFTER EARLY INFANT MALE CIRCUMCISION

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Abstract

Aim of the Study: When circumcision is performed by experienced hands, has a low complication rate between 2% and 10% but under unsterile conditions, rare potentially lethal complications such as necrotizing fasciitis may occur, and it should be treated with immediate resuscitation, broad-spectrum antibiotics, and surgery.

Case description: We describe a 5-month-and-28-day-old infant who developed necrotizing fasciitis following Plastibell circumcision. Three days before admission, he had undergone ring circumcision. Two days later, his mother discovered him unwell, developing erythema, swelling in his genital area, and purulent discharge on his diaper. Because of the infant's agitation, his parents administered opioids and betamethasone ointment to relieve him of his symptoms. His condition on arrival was septic; he had a body temperature of 38 degrees Celsius. The scrotum was swollen in physical examination. The inflammation had spread to the adjacent tissues and the perineal region over the pubis symphysis (Figure 1). Excessive purulent discharge was noted on superficial palpation of the penis. In the laboratory, he had a WBC count of, 24700/mm3 (PMN: 50.4%). Considering necrosis as an indicator of the need for surgical debridement, the necrotic tissues were debrided in several days. Because of peripheral edema, the delayed primary closure was postponed until the peripheral edema subsided.

Conclusions: This report emphasizes that clinicians should use standard equipment and appropriate-sized rings to prevent these unusual complications following circumcision.


Figure 1: Three days after plastibell circumcision

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR46_PO / 14:00 – 14:05

WHERE IS THE SHUNT? MULTIDISCIPLINARY MANAGEMENT OF A PATIENT WITH CONGENITAL PULMONARY AIRWAY MALFORMATION (CPAM)

Alba María Hernández Pérez, Alejandro Encinas Goenechea, Irene Martínez Castaño, Patricia Deltell Colomer, Valentina Diaz Diaz, Carlos De la Sen Maldonado, Maria Gabriela Toro Rodríguez, Jerónimo Gonzálvez Piñera
Hospital General Dr. Balmis, Alicante, Spain

Abstract

Aim of the study: To describe the prenatal CPAM treatment with a thoracoamniotic shunt, its complication (migration) and postnatal care.

Case description: A newborn of 37+6weeks´ gestation and a birthweight of 3215g was assessed after an elective C-section. A prenatal diagnosis of right CPAM was made at 20 weeks-gestation. At the 29+1-week work-up polyhydramnios, heart failure and fetal hydrops were found. A thoracoamniotic shunt was inserted in the referral hospital. Subsequent ultrasounds and MRI (week 36) showed the catheter in a normal position and no signs of fetal hydrops. The physical examination at birth patented an absence of the thoracoamniotic shunt. The patient showed signs of progressive respiratory distress and hemodynamic instability, requiring advanced respiratory support. The chest CT findings included a macrocystic right lower lobe CPAM, which caused mediastinal shift and the thoracoamniotic shuntlodged in the right hemithorax. After initial respiratory support the patient presented further respiratory instability with hyperinflation of the cysts and greater deviation of the mediastinum. An intracystic chest tube was inserted into the largest cyst and an urgent right lower lobectomy was performed at 48 hours of life.

Conclusions: The thoracoamniotic shunt catheter allows pregnancy to carry on to term with hemodynamic stabilization and preventing fetal lung hypoplasia. However, it does not modify the characteristics of the lesion or its pathophysiology at birth and urgent care may be required if respiratory/ hemodynamic instability is encountered.

CR47_PO / 14:05 – 14:10

LYMPHATIC-SPARING LAPAROSCOPIC VARICOCELECTOMY AS AN ALTERNATIVE IN THE MANAGEMENT OF PEDIATRIC VARICOCELE

M.G Toro-Rodriguez, M. Dore, P. Deltell-Colomer, C. De-La-Sen-Maldonado, V. Diaz-Diaz, A. Hernández-Hernández, A. Encinas-Goenechea, J. Gonzalvez-Piñera
Hospital General Universitario De Alicante "Dr. Balmis", Alicante, Spain

Abstract

Aim of the Study: Laparoscopic treatment of varicocele in children is controversial due to high rates of postoperative hydrocele. Our aim is to describe the use of isosulfan-blue dye-assisted lymphatic-sparing laparoscopic varicocelectomy (IBLSLV) as an alternative when other treatment options are not feasible.

Case description: A review of the medical records of two patients with varicocele that underwent IBLSLV was performed. Isosulfan-blue (IB) was used to stain lymphatic vessels in order to spare them during the surgical procedure. After anesthetic induction and prior to trocar placement, a 20% IB solution was injected intradartoic(1.5cc) and intraparenchymal(1cc). Spermatic vessels were ligated but at least 2 lymphatic vessels were spared. Case1: 12 yr-old with grade-III, asymptomatic, left varicocele. Doppler-ultrasound showed venous dilation and reflux, and testicular volume difference (TVD) of 25%. After 1 year, TVD worsened to 40%. Embolization was not feasible due to technical difficulties, thus a IBLSLV was performed. At one-year follow-up-control, the patient is asymptomatic, without signs of varicocele or hydrocele, and without progression of TVD. Case2: 10 yr-old with grade-III, painful, left varicocele without relevant TVD. Spermatic vein embolization was performed. After six months, the patient presented recurrent scrotal pain requiring multiple visits to the ER. Ultrasound findings showed signs of recurrence, thus a IBLSLV was performed at 13 years of age. A year later, the patient is asymptomatic, without signs of varicocele or hydrocele.

Conclusions: Our initial experience shows that IBLSLV is safe and feasible as an alternative in pediatric varicocele treatment in selected cases.

CR48_PO / 14:10 – 14:15

CHILDHOOD MONOPHASIC SYNOVIAL SARCOMA OF THE CHEST WALL

Fatma BCHINI[1], Cyrine SAADI[1], Malek Boughdir[1], Hajer Ben Mansour[2], Aida DAIB[1], Asma JABLOUN[1], Fatma TRABESLI[1], Rabiaa BENABDALLAH[1], Nesrine CHRAIET[2], Youssef GHARBI[1], Youssef HELLAL[1], Amel MEZLINI[2], Nejib KAABAR[1]
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Abstract

Aim of the study: Synovial sarcoma is a distinct subtype of soft tissue sarcomas. It arises in the para-articular regions, mainly in the tendons and less frequently in the fascial structures and ligaments. Thoracic synovial sarcoma is rarer than its extra thoracic counterpart and may arise in the chest wall, pleura, mediastinum, heart, or lung. Long history of symptoms and heterogeneous clinical presentation sometimes delays diagnosis. In this report we describe a rare case of synovial sarcoma of the chest wall in a child.

Case description: A 12-year-old boy presented to our pediatric surgery department with chief complaint of swelling accompanied by slight pain of the upper right side of the anterior chest wall since approximately 5 months. Firstly, we performed an ultrasound-mass biopsy. Histopathological examination showed fibromatosis. Following that, we underwent surgical resection. Pathological examination revealed a monophasic synovial sarcoma. Post-operatively, the patient presented a loss of the extension of the fingers on the right hand. We conducted six cycles of adjuvant chemotherapy with Adriamycin/Ifosfamide. We administered, also, radiotherapy (total 54 Gy with a boost of 61Gy which allowed a better local control). Actually, following plastic surgery, the boy's finger extension has been restored. There is no evidence of recurrence with a follow up of 4 years. However, careful observation may be required.

Conclusions: We have reported our experience with a rare case of monophasic-type synovial sarcoma from the chest wall. This pathology requires multidisciplinary management. Radical surgery, if feasible and not mutilating, seems to improve prognosis.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR49_PO / 14:15 – 14:20

BILATERAL OVARIAN DYSGERMINOMA IN A PREPUBERTAL CHILD PRESENTING WITH THE COMPLAINT OF ACUTE ABDOMEN

Fatma ÖZCAN SIKI[1], Mehmet SARIKAYA[1], Tamer SEKMENLİ[1], Metin GÜNDÜZ[1], Yavuz KOKSAL[2], İlhan ÇİFTCİ[1]
[1]Selcuk University, Faculty of Medicine, Department of Pediatric Surgery, KONYA, Turkey. [2]Selcuk University, Faculty of Medicine, Department of Pediatric Hematology and Oncology, KONYA, Turkey

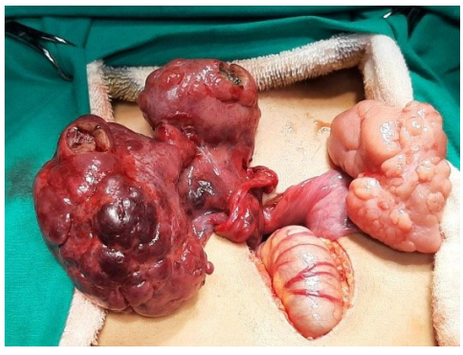
Abstract

Aim of the Study: Ovarian tumors in children constitute approximately 1% of all childhood tumors, and germ cell tumors constitute an important part of this. Dysgerminomas are among the most common types. We present a 10-year-old female patient who was an acute abdomen and was operated on for bilateral dysgerminoma with unilateral ovary torsion.

Case description: 10-year-old female patient; She applied with the complaint of vomiting after sudden onset of abdominal pain. She did not have any additional disease and her blood tests were normal. Both ovaries could not be seen and a 5x5 cm mass was observed in the pelvic region in the abdominal ultrasonography. The patient underwent an operation. It was observed that there was mass in both ovaries and the right ovary was torsioned. In the frozen pathology taken during the operation, it was confirmed that there was bilateral dysgerminoma and no ovarian tissue in both ovaries. The patient underwent bilateral salpingo-oophorectomy.

Conclusıons: The primary pathology in patients with ovarian torsion in the prepubertal period may be ovarian tumor. The contralateral ovary must be checked.

Keywords: ovarian tumors, children, ovarian torsion, bilateral dysgerminoma



CR50_PO / 14:20 – 14:25

HUMAN TAIL: A RARE CASE OF OCCULT SPINAL DYSRAPHISM

Ugnė Krunkaitytė, Gabrielė Ūbaitė, Arvydas Palepšaitis, Dalius Malcius
The Hospital of Lithuanian University of Health Sciences Kauno klinikos, Kaunas, Lithuania

Abstract

Aim of the Study: To present a case report of a human tail in an infant administered to our hospital and to review existing data about this rare anomaly.

Case description: A 2-month-old male infant was presented to an outpatient setting because of ‚the tail'seen in the lumbosacral region since birth. The patient was a term infant and had no history of trauma, previous surgeries, and no allergies. During the examination upon arrival, the mass was seen as a solid, homogeneous, 4-5 cm long, spiral-shaped tubular skin growth in the midline just above the intergluteal cleft without any bony structures. For a detailed examination, an MRI was performed which confirmed that the mass seems to be a rudimentary tail with no connection with the spinal canal. Finally, the boy underwent surgery. The mass was removed at its base by simply tying it up and cutting it off with electrocautery. The removed mass was later sent for a histopathological examination which revealed it consisted of skin and adipose tissue, with no muscle or nerve fibers detected. The surgical wound healed in a primary manner with no postoperative complications observed.

Conclusions: Since the human tail is a rare congenital anomaly an up-close physical and radiological examination is essential in order to rule out other possible occult spinal dysraphisms and to decide on proper management.



24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CR51_PO / 14:25 – 14:30

MULTIDISCIPLINARY MANAGEMENT OF FOCAL CONGENITAL HYPERINSULINISM

Begum Pisiren[1], Ozlem Boybeyi[1], Onur Gozmen[2], Meliha Pinar Cengiz[2], Murat Tuncel[3], Tutku Soyer[1], Hüseyin Demirbilek[2]
[1]Hacettepe University, Faculty of Medicine, Department of Pediatric Surgery, Ankara, Turkey. [2]Hacettepe University, Faculty of Medicine, Department of Pediatric Endocrinology, Ankara, Turkey. [3]Hacettepe University, Faculty of Medicine, Department of Nuclear Medicine, Ankara, Turkey

Abstract

Aim of the Study: We present two cases with focal congenital hyperinsulinism CHI to discuss the importance of multidisciplinary management.

Case description: The first case was 5-month-old boy with CHI due to paternally inherited heterozygous ABCC8 gene mutation. The 18F-DOPA PET/CT imaging revealed intense focal radioactivity at anterior of pancreatic head-body junction. At surgical exploration, a lesion that was 0.5 cm in diameter and slightly reddish in color was found at the defined location. The lesion excised with a clear margin and diagnosed as focal islet cell hyperplasia histopathologically. The second case was a 7-month-old girl with CHI due to paternally inherited heterozygous ABCC8 gene mutation. The 18F-DOPA PET/CT imaging revealed intense focal radioactivity at the tail of pancreas. Surgical exploration revealed a lesion localized at the deep tissue of tail of the pancreas palpated slightly firmer than normal pancreas tissue. Since the lesion was at the lateral end of the tail, it was excised together with the tail of pancreas. The diagnosis was confirmed as focal islet cell hyperplasia histopathologically. Both patients did not experience any surgical complication and are being followed-up without any medication with normal blood glucose and age-appropriate fasting tolerance.

Conclusions: The diagnosis of focal CHI is very crucial since it is the surgically curable form of CHI. The genetic analysis and 18F-DOPA PET/CT imaging study have important role in diagnosis and avoids unnecessary sub-total/near-total pancreatectomy and its complications. The surgical excision of the focal lesion is an effective way of management in focal CHI.

13:30 - 14:30

Poster Presentation Session 18

Child Abuse Prevention / Trauma

(M2) Studio 1+2

Chair: Elke Zani-Ruttenstock (CAN)

Tamas Kovacs (HUN)



24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

CA01_PO / 13:30 – 13:35

DUODENO-JEJUNAL PERFORATION DUE TO BLUNT ABDOMINAL TRAUMA IN A 6-YEAR-OLD CHILD VICTIM OF ABUSE.

Michela Addeo[1,2], Emanuele Trovalusci[1,2], Riccardo Guanà[1], Federico Scottoni[1], Carola Marchetti[1], Fabrizio Gennari[1]
[1]Regina Margherita Children's hospital, Torino, Italy. [2]Department of Women's and Children's Health, Padova, Italy

Abstract

Aim of the study: Here reported a pediatric case of traumatic intestinal perforation caused by blunt abdominal-vertebral trauma due to family violence, to focus on the optimal management of this kind of event.

Case description: A 6-year-old male patient was admitted to our hospital for critical clinical conditions after a reported fall from the stairs.At the admission the patient was unconscious (pGCS of 8), so a CT-scan was performed with a finding of hemoperitoneum and pneumoperitoneum.An emergency laparotomy was executed, with an intraoperative finding of ischemia due to mesenteric laceration and multiple perforations of the third and fourth duodenal portions and the first 25 cm of the proximal jejunum.A resection of the necrotic sections and a side-to-side duodeno-jejunal anastomosis were performed.The postoperative period was regular, but due to an initial rejection of oral feeding, enteral feeding was administered for 4 weeks through a naso-jejunal tube before complete weaning from it.Then the patient was discharged, after 6 weeks of hospitalisation.Since the initial clinical conditions and the intraoperative finding were not consistent with the history reported by the mother, a more in-depth analysis of the dynamic of the accident and the family situation was performed with the help of a pediatric psychologist.A history of physical and psychological violence perpetrated by the stepfather was found out at the end.

Conclusions: Severe traumas in children should always be analysed in depth and with a multidisciplinary approach, especially in case of atypical clinical presentations, to prevent the possibility of overlooking a situation of domestic violence.

CA03_PO / 13:40 – 13:45

NON-ACCIDENTAL TRAUMA: TIGHTROPE WALK BETWEEN OVER- AND UNDER-ESTIMATION

Evangelia Gkougkoudi[1], Christos Minas[2], Zacharias Zachariou[1,2]
[1]Medical School University of Cyprus, Nicosia, Cyprus. [2]Childrens Hospital NAM III, Nicosia, Cyprus

Abstract

Aim of the Study: Pediatricians and/or Pediatric Surgeons are the primary care givers who will first suspect or recognize child abuse. We report on a case of an "overzealous" specialist, who wrongly accused the father as perpetrator.

Case description: 5-month-old girl, daughter of immigrants, was presented with excoriations around the genital region. The senior pediatric surgeon who examined the child immediately diagnosed sexual abuse and informed the police and the press making the following statement and even mentioning personal data of the family: "This is a shocking and a tragic incident where a girl of only 5 months has been sexually abused having signs of rape. In my 32-year career, this is the first time I have seen something like this". The police arrested the father who was kept in custody for 72 hours, until sexual abuse was ruled out after forensic examinations. The trauma was a result of primarily diaper rash that extended to the genital region.

Conclusions: Detection of sexual abuse in neonates and infants remains a difficult challenge, even for well-trained, experienced Pediatric Surgeons, leaving many abused infants unreported. On the other hand, over-reaction in cases of suspected sexual abuse may cause irreparable disruption in the family structure. It is important for Pediatric Surgeons to be aware of the clinical findings, have self-confidence, knowledge, and awareness for recognizing, diagnosing, and reporting cases of sexual abuse being the main features for prevention of further abuse keeping in mind the welfare of the child and the family.

CA04_PO / 13:45 – 13:50

Burn mechanism, severity and surface area in pediatrics: A retrospective study among immigrants and Turks in a burn center.

Begüm Sönmez, İncinur Genişol Ataman, Kamer Polatdemir
Dr.Behcet Uz Child Disease and Pediatric Surgery Training and Research Hospital, izmir, Turkey

Abstract

Aim of the Study: This study was aimed to determine the typical demographic characteristics and injury data of pediatric burn patients hospitalized in our hospital and to investigate whether the incidence of severe burns is higher in immigrants.

Methods: We retrospectively evaluated 226 hospitalized patients in our pediatric burn center in 2022. The demographic data of the patients, being Turkish or immigrant, burn mechanism, severity, surface area, length of stay, day of debridement and/or grafting were included in the study. The data of Turks and immigrants were compared. Chi-square test for comparing the difference between two independent categories, and the Mann Whitney U test for numerical comparisons were used.

Main results: 144(63.7%) of 226 patients were male. The mean age was 47.57±51.02 months. 42(18.6%) patients were immigrants. The most common burn mechanism is by hot water (n:154, 68.1%). There was no significant difference between the burn severity of the patients(p=0.554). The mean total burn surface area of all patients was 10.55±7.60%. There was no significant difference between the mean age of Turks and immigrants (47.70±50.04 months versus 46.97±51.54 months, p=0.965) and hospital stay (12.20±14.64 days versus 12.90±11.45 days, p=0.205). 55(24.3%) of the patients were debrided, 53(23.5%) were grafted. No significant difference was found in requirement of debridement(p=0.478) and graft(p=0.385) between groups.

Conclusions: When we compared immigrants with Turks, we found similar results. Multicenter studies are needed to show the differences between these groups.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

TR01_PO / 13:50 – 13:55

MECHANISMS, MANAGEMENT, AND OUTCOMES OF LOW- VERSUS HIGH-VOLTAGE ELECTRICAL INJURIES: AN INTERNATIONAL REGISTRY STUDY

Betül Günal[1], Philipp Mildenberger[2], Oliver Muensterer[1,3]
[1]Department of Pediatric Surgery, Johannes-Gutenberg-University Mainz, Mainz, Germany. [2]Institut für Medizinische Biometrie, Epidemiologie und Informatik, Johannes-Gutenberg-University Mainz, Mainz, Germany. [3]Department of Pediatric Surgery, Dr. von Hauner Children's Hospital, LMU Medical Center, Munich, Germany

Abstract

Aim of the Study: Electrical burns are associated with substantial morbidity, but research on this subject is scarce. This study characterizes the mechanisms, patterns, extent, and outcome of low- versus high-voltage electrical injuries and identifies particular implications for the pediatric age group.

Methods: We performed a retrospective analysis of an international registry (DGV Dataset Number 2019-01) from 2015 through 2018, identifying patients who suffered electrical burns. Demographics, mechanism of injury, total burn surface area (TBSA), location and depth, hospital stay, complications and mortality rate were extracted. Mann-Whitney and Fisher's exact tests were used to compare mechanisms and age ranges. Significance was defined as $p<0.05$.

Main results: A total of 215 patients (86.5% male) were identified, including 42 children. Victims of high-voltage compared to low-voltage burns suffered more extensive burns (35% vs. 2%TBSA, $p<0.001$), more complications (67% vs. 6%, $p<0.001$), higher mortality (15% vs. 0%, $p<0.001$), had longer hospital stay (47 vs. 10 days, $p<0.001$), and underwent more operations (5.79 vs. 1.68, $p<0.001$). High-voltage burns were more extensive in children compared to adults (51% vs. 33%TBSA, $p<0.01$), and led to more disability. Ominous factors for mortality on multivariate analysis were hypothermia on admission (1°C decrease of body temperature increased mortality x1.4), higher TBSA, deeper burns, and arc mechanism.

Conclusions: High-voltage electrical injuries in children are associated with significantly higher total burn surface area than in adults. Physiologic, physical, and size differences may explain these findings. Hypothermia should be avoided after electrical burn injury because it is a strong predictor of mortality, particularly in pediatrics.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE

European Paediatric Surgeons' Association

TR02_PO / 13:55 – 14:00

FRACTIONAL CO2 LASER THERAPY IN CHILDREN WITH PATHOLOGICAL SCARS REFRACTORY TO OTHER TREATMENTS

Miriam Miguel-Ferrero[1], Carlos Delgado-Miguel[1,2], Ricardo Mejía[1], Arturo Almeyda[1], Paloma Triana[1], Mercedes Díaz[1], Juan Carlos López-Gutiérrez[1]
[1]La Paz Children´s Hospital, Madrid, Spain. [2]Fundación Jiménez Díaz University Hospital, Madrid, Spain

Abstract

Aim of the Study: Pathological scars cause high morbidity and require complex treatments. Although fractional CO2 laser therapy (FCO2LT) has proven its efficacy for the treatment of pathological scars (PS) when other treatments have failed, it has not yet been widely adopted in children. We present our preliminary results with FCO2LT in children with PS refractory to other treatments.

Methods: we present a prospective study (may-december 2022) in children undergoing FCO2LT of PS where other treament modalities had failed. We recorded demographic and clinical variables and adverse events. Scars were assesed before each treatment and 3months afterwards using the Patient and Observer Scar Assesement Scale (POSAS) and the Vancouver Scar Scale (VSS).

Main results: Eighteen children (10boys/8girls; median age: 12years) underwent 22 laser sessions. PS were due to: burns (13), traumatic injuries (3) and surgeries (2). Fourteen patients presented with hypertrophic scars, of whom 9had also contractures and 1patient had an atrophic scar. All patients had received previous treatment with pressure garmentes, corticosteroids infiltration or surgery. Both total POSAS (85.3±12.5 to 75.7±15.4; P<0.001) and VSS (-2.99,95%CI: -4.30, -2.18; P<0.001) after one treatment, with further improvement in 4patients which two sessions. FCO2LT was very well tolerated with scarce adverse events (mild pain, pruritus and erythema).

Conclusions: FCO2LT in children enables objective and statistically significant improvent of PS when other treatments have failed. In the future, FCO2LT should be considered as a first-line option in the treament of pediatric scars, as opposed to more agressive invasive therapies or less effective conservative treatments.

TR03_PO / 14:00 – 14:05

INHALATION INJURY IN CHILDREN; EXPERIENCE OF AT TERTIARY PEDIATRIC BURN CENTER

Fahri Akkaya[1], Sabri Demir[1], Süleyman Arif Bostancı[2], Can Ihsan Oztorun[3], Elif Emel Erten[2], Muhammed Necmi Gürel[1], Vildan Selin Çayhan[2], Ahmet Ertürk[3], Müjdem Nur Azılı[3], Emrah Şenel[3]
[1]Universiy of Health Science Ankara Bilkent City Hospital, Pediatric Burn Center, Department of Pediatric Surgery, ANKARA, Turkey. [2]Ankara City Hospital,Department of Pediatric Surgery, ANKARA, Turkey. [3]Ankara Yıldırım Beyazıt University, School of Medicine, Department of Pediatric Surgery, ANKARA, Turkey

Abstract

Aim of the study: We aimed to share our clinical data and experiences of children with inhalation injuries treated at our pediatric burn center.

Methods: The records of the patients who were treated in our pediatric burn center due to inhalation injury between 2009 and 2022 were reviewed retrospectively. Their data were compared with patients without inhalation injury. The diagnosis was made by performing bronchoscopy. P<0.05 was considered significant.

Main results: Inhalation injury was detected in 105 of 2191 patients (4.8%) hospitalized in our pediatric burn center. It was mostly caused by flame burns (%93.3) There was no difference between patients with and without inhalation injury in terms of gender (67.6% versus 60.9%, p=0.167). Patients with inhalation injury had a longer length-of-stay at PBC (40.9 vs.15.9 days; p<0.001), and greater total burned surface areas (38.5% vs. 16.4%, p<0.001). They were followed up as intubated for an average of 5.6 days. More skin grafts (70.5% vs. 32.3%, p<0.001), and amputations were performed in inhalation injury group (16.2% vs. %1.6, p<0.001). Sixty-six patients (62.9%) were Turkish citizens, while 39(37.1%) were refugees. It was seen more in refugees (12.6% vs. 3.5%, p<0.001). The mortality rate was higher in inhalation injury group (25.7% vs 1.6%; p<0.01).

Conclusion: Although inhalation injuries are seen in a minority of hospitalized patients, it has higher morbidity and mortality. Therefore, in all suspected patients, the diagnosis should be confirmed by bronchoscopy. They should be treated in centers that have sufficient experience in this regard.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

TR04_PO / 14:05 – 14:10

THE IMPACT OF CORRECTNESS OF FIRST AID GIVEN TO CHILDREN WITH BURNS ON CHOSEN PARAMETERS OF BURNS

AGATA KAWALEC
Opole University, Opole, Poland

Abstract

Aim of the Study: To assess the impact of correctness of first aid given to the children with burns on chosen parameters of burns.

Methods: The survey was conducted among 200 caregivers of children hospitalized due to burn injuries in 5 Polish hospitals. The correctness of given first aid was assessed individually in each case. The data about the surface of burn, burn depth, treatment, duration of hospitalization were collected from medical documentation. Statistical analysis was performed using Statistica v.12. Ethics approval was obtained from the Bioethical Committee of Wroclaw Medical University.

Main results: First aid was given by the person who was present at the moment of the injury (in 67% by the mother). Ambulance was called in 61.5% cases, more often to younger children ($p<0.05$). The common mistakes were lack of cooling the burn wound with running water, lack of admission of analgesics, applying different substances to the burn wound (vodka, milk, eggs). The ambulance was called to 61.5% of burned children, only 19.5% of them received analgesics before arrival to the hospital. Parents with higher education gave correct first aid more often than parents with primary education ($p>0,05$). Children who did not receive correct burn wound cooling more often suffered from full-thickness burns than children who received correct burn wound cooling ($p>0.05$), more often required surgical treatment ($p>0.05$) and longer hospitalization ($p<0.05$).

Conclusions: The improvement of the quality of first aid given to children with burns could reduce the children's suffering and the costs of treatment.

TR05_PO / 14:10 – 14:14

THE SHAME OF HUMANITY; REFUGEES/ASYLUM SEEKER CHILDREN BURNS

Sabri Demir[1], Fahri Akkaya[1], Arif Süleyman[2], Elif Emel Erten[2], Can Ihsan Oztorun[3], Ahmet Ertürk[3], Nur Sezen Parlak[1], Vildan Selin Çayhan[4], Müjdem Nur Azılı[3], Emrah Şenel[3]
[1]Universiy of Health Science Ankara Bilkent City Hospital, Pediatric Burn Center ,Department of Pediatric Surgery, Ankara, Turkey. [2]Ankara City Hospital, Department of Pediatric Surgery, Ankara, Turkey. [3]Ankara Yıldırım Beyazıt University,Scholl of Medicine ,Department of Pediatric Surgery, Ankara, Turkey. [4]Ankara City Hospital, Department of Pediatric Surgery, Ankara, Turkey

Abstract

Aim of the study: We aimed to share our data about burns of refugees seeker children who had to leave their homes due to the civil war, treated in our pediatric-burn-center(PBC).

Methods: Children who lived in refugee camps in their own countries, and who were under the status of asylum seeker/refugee in Turkey, were treated in our PBC were included. Demographic and clinical data were evaluated retrospectively and compared with Turkish patients. P<0.05 was considered significant.

Main results: Between 01 January 2011 and 31 December 2022, 1872 burned-children treated. Of these, 315 (16.8%) were refugees seekers. Their length-of-stay at PBC was longer than Turkish (25.2 vs. 15.6 days, P<0.001), total-burned-body-surface-area was bigger (19.6 vs 14.0%, P<0.001), the incidence of fire/flame burns was higher (32.7% vs. %18.0, P<0.001), and grafting rates were higher (46.3% vs. 32.4%, P<0.001). The mortality rate of refugees/asylum seekers was four-times higher (7.9% versus 2.2%, P<0.001). Of these, 78.8% were Syrian, 9.2% Iraqi, 8.0% Afghan, and 1.6% Somalian. Refugees/asylum seeker victims were injured mostly in the winter-months and by the flame burns caused by fuel-stove used for heating in refugee camps. The second most common cause was the fires caused by other reasons in the tents/barracks, followed by bomb explosions.

Conclusions: Refugees escaping from the war live in terrible conditions in the camps.Fuel-stoves and related fires are the most common cause of burns in refugee camps. Therefore, international organizations should find a solution to the heating in camps other than fuel-stoves.

TR06_PO / 14:14 – 14:18

THE EFFECT OF BUN/ALBUMIN RATIO IN EVALUATING MORTALITY IN 20% OR MORE PEDIATRIC BURN PATIENTS

Ayse Demet Payza, Asya Eylem Boztas Demir, Akgun Oral
Health Sciences University, Dr. Behcet Uz Pediatric Diseases And Surgery Training And Research Hospital, Izmir, Turkey

Abstract

Aim of the Study: The aim of this study is to evaluate the predictive value in terms of predicting bun/albumin ratio and in-hospital mortality in pediatric burn patients of 20% or more total body surface area (TBSA).

Methods: Datas of 219 patients who were hospitalized with %20 or above of TBSA burns in our pediatric burn unit in the last five years were reviewed retrospectively. Patients were analyzed for demographic information and basic clinical data, cause of burn, need for an operation, follow-up period. BUN and albumin values measured at the time of admission to the hospital were used to calculate the BUN/albumin ratio. Datas were evaluated for in-hospital mortality.

Main results: 37% of patients were female and 63% of them were male. Median age was 4 years (1-6years). Overall mortality rate was 4.5%. The median albumin level of the deceased was lower than that of the survivors (2,1 and 3,8 g/L respectively, $p<0,05$). There was no statistically significant difference between the median BUN levels of the deceased and the survivors ($p>0,05$). The median BUN/albumin ratio of the deceased was higher than the survivors (5,27-3,41 respectively, $p=0,009$).

Conclusion: Hypoalbuminemia detected during first hospitalization in the burn unit is associated with mortality in patients with 20% or more burn areas. High BUN/albumin ratio is also a statistically significant predictor of in-hospital mortality in these patients.

TR07_PO / 14:18 – 14:22

Electronic checklist improving accuracy of the tertiary trauma survey: initial experience in a major paediatric trauma centre in the UK.

Azam Ali Baig, Hetal Patel, Ingo Jester
Birmingham Women's and Children's Hospital, Birmingham, United Kingdom

Abstract

Aim of the Study: Tertiary survey is a necessary component to diagnose non-life-threatening injuries in trauma patients. We noted in our centre a discrepancy in the method of conducting and documenting tertiary surveys between clinicians. The study's aim was to improve consistency, accuracy, and compliance in performing and documenting tertiary surveys.

Methods: Over a one-year period, a questionnaire assessed junior clinician's knowledge and comfortability with the principle of a tertiary survey. A mandatory electronic tertiary survey checklist was created and implemented for all trauma admissions using a binary checklist with further clinical questions prompted after an initial affirmative response. Clinicians' confidence and accuracy was reevaluated with a questionnaire after one month.

Main results: In the first cycle, half of the clinicians did not know what a tertiary survey was and one third knew when to perform one. In the second cycle, compliance was recorded at 100%. Results from reevaluation revealed that all clinicians knew what a tertiary survey was and where to find the electronic checklist; 66% of clinicians deemed themselves as competent performing a tertiary survey and 88% of clinicians deemed themselves as competent documenting their findings.

Conclusion: Tertiary surveys are an integral part in the management of paediatric trauma. Various published aide-memoirs exist; however, they are not practical to be introduced in daily workflows. Our experience demonstrates that the integration of a checklist in electronic patient records can improve accuracy of the tertiary survey which should consequently improve outcome of trauma patients.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

TR08_PO / 14:22 – 14:26

DEVELOPMENT OF SIMPLE MORTALITY PREDICTING SCORE IN PEDIATRIC TRAUMA PATIENT

Jiraporn Khorana, Narain Chotirosniramit
Chianng Mai University, Chaingmai, Thailand

Abstract

Aim of the Study: There were many systematic scoring systems constructed for trauma patients. There were few scoring systems which specific and simple for pediatric population. This study aimed to develop the mortality predicting score in pediatric trauma patient.

Methods: Pediatric trauma patients admitted between January 2007 to December 2022 aged 0-18 were included. Retrospective consecutive reviewed was done. The mortality within 30 days was the outcome. Parameters at admission were collected. The logistic regression was used and reported as odds ratio. Factors predicted mortality was transformed to assigned score. Internal validation by bootstrap technique was done.

Main results: A total of 376 patients were included. Ten (2.7%) patients were died, and 366(97.3%) patients were alive. Glasgow Coma Scal (GCS)(3.0(3.0-6.0) VS 15.0 (15.0-15.0) p<0.001), systolic blood pressure(106.6±21.5 VS 118.5±18.2 p=0.044) and temperature(36.5±0.8 VS 37.0±0.7 p=0.036) were found statistically significant associated with mortality. These 3 parameters were categorized and transformed score as table. The area under receiver operative curve of 94.5% was obtained. The prediction score ranges from 0-4 with the cut point of 2 and more had high mortality risk (LHR+ = 9.9(6.2-15.8)).

Conclusions: Severe head injury, systolic blood pressure of 90 mmHg and less, temperature of 36.0 and less were the admission parameters which could predict the mortality of pediatric trauma in the simple rule with high prediction affinity.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

TR09_PO / 14:26 – 14:30

IS THERE A CUTOFF VALUE FOR PREDICTING LIVER INJURY IN PEDIATRIC ABDOMINAL TROUMA BASED ON HEPATIC ENZYMES?

Tuğba Örnek Demir[1], Can İhsan Öztorun[2], Elif Emel Erten[1], Ahmet Ertürk[1], Sabri Demir[1], Emrah Şenel[2], Müjdem Nur Azılı[2]
[1]Sağlık Bilimleri University, Ankara, Turkey. [2]Yıldırım Beyazıt University, Ankara, Turkey

Abstract

Aim of the Study: The descriptive values of biomarkers indicative of hepatic damage in the evaluation of abdominal trauma (AT) remain uncertain. We sought to determine the appropriate liver enzyme cutoffs for identifying liver injury (LI).

Methods: This is a single-center study that was retrospectively performed on patients under 18 years of age who applied to our hospital, which was serving as a pediatric trauma center. The study considered 11.174 patients between January 2015, and November 2018. Between the dates, 1906 patients were included in the abdominal trauma group (ATG). ATG consisted of patients who were diagnosed and treated with abdominal trauma according to physical examination findings, laboratory tests, and imaging methods. The relationship between physical examination findings, imaging methods, and treatment options was evaluated statistically.

Main results: Among the study population, 17% of the patients were evaluated in ATG (n=1906). In abdominal traumas, computed tomography (CT) was requested in 31.4% (n=493), and the rate of pathological finding in CT was 30.9% (n=201) with, and LI was found 3.3% of ATG. When imaging methods were compared with ALT and AST values for detecting LI; the optimal cutoffs for AST and ALT were determined as 153 U/L and 80 U/L respectively with 86.7% of sensitivity and 77.8% of specificity.

Conclusions: The release of liver enzymes is an established indicator of LI. In our cohort, AST levels greater than 153 U/L and ALT levels greater than 80 U/L exhibited a high sensitivity in predicting LI and may be used safely.

13:30 - 14:30

Poster Presentation Session 19

General V

(M2) Studio 1+2

Chair: Mohit Kakar (LAT)

Roman Metzger (AUT)



24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

GE35_PO / 13:30 – 13:35

SURGICAL TREATMENT OF PRIMARY HYPERPARATHYROIDISM IN CHILDREN

Petra Zahradnikova[1], Lenka Fedorová[1], Eva Vitariušová[2], Jozef Babala[1], Robert Králik[3]
[1]Department of Pediatric Surgery, Faculty of medicine, Comenius University and National Institute of Children´s Diseases, Bratislava, Slovakia. [2]Department of Pediatrics, Faculty of medicine, Comenius University and National Institute of Children´s Diseases, Bratislava, Slovakia. [3]Department of Surgical Oncology, Medical Faculty of Comenius University St. Elisabeth´s Cancer Institute, Bratislava, Slovakia

Abstract

Aim of the Study: Primary hyperparathyroidism (PHPT) is an endocrine disease characterised by elevated serum calcium and abnormally high PTH levels. Approximately 80% of children with PHPT are symptomatic, the delay in diagnosis and definitive surgical treatment leads to organ damage.

Methods: A retrospective analysis of all patients (2016-2022) with PHPT who underwent parathyroidectomy. Primary outcome was normo-calcaemia > 6 months after surgery, secondary outcome was operative success (intraoperative: 10 minutes after parathyroidectomy parathyroid hormone (IOPTH) decrease of ≥50%).

Main results: 8 patients (75% F) were included. The mean age was 13.6 (range: 8-16) years. The symptoms were musculoskeletal pain (25%), bone deformity (12.5%), abdominal pain (37%), renal stones (50%), reno-vascular hypertension (12.5%). The mean serum calcium was 3,1±0,8 mmol/l, the median serum PTH was 307 pg/ml (range: 113–1397.2). Genetic analysis for MEN-1 mutations was negative in all patients. PET-CT 18F cholin was positive in 75% patients (Figure 1). Six patients underwent unilateral parathyroidectomy, 25% parathyroid autotransplantation (Figure 4a,b). The mean level of IOPTH was 19.4 pg/ml, in 87,5% decreased ≥ 50%. Biochemical investigations after surgery showed decrease in calcium level (mean 1.88 mmol/L) and PTH levels (mean 28.7 pg/ml); subsequently. Normo-calcaemia >6 months after surgery was achieved in 87.5%, with no postoperative complications. One patient with multi-glandular disease required reoperation due to the ectopic adenoma.

Conclusions: Our study showed the spectrum of manifestations of PHPT in children is various. Given the high risk for complications, parathyroid surgery in children should be performed by experienced surgeons in multidisciplinary cooperation.

Figure 1

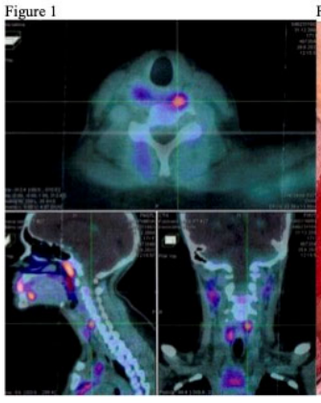


Figure 2

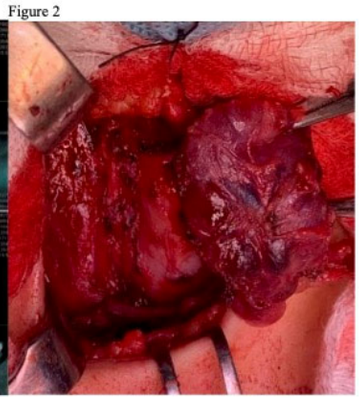


Figure 3



Figure 4a



Figure 4b



Figure 1. PET-CT F18 Cholin revealed hyperplasia of the left parathyroid

Figure 2. Left thyroid gland exploration

Figure 3. Extracted left parathyroid gland adenoma

Figure 4a, b. Parathyroid autotransplantation into non-dominant forearm brachioradialis muscle

GE36_PO / 13:35 – 13:40

GOOD RESPONSE TO BLEOMYCIN SCLEROTHERAPY FOR MICROCYSTIC LYMPHATIC MALFORMATIONS IN CHILDREN

Hanna Hyvönen[1], Kristiina Kyrklund[1,2], Päivi Salminen[1,2], Johanna Aronniemi[3,2]
[1]Department of Pediatric Surgery, New Children's Hospital, University of Helsinki and Helsinki University Hospital, Helsinki, Finland. [2]VASCERN VASCA European Reference Centre, Helsinki, Finland. [3]HUS Diagnostic Center, Department of Radiology, New Children's Hospital, University of Helsinki and Helsinki University Hospital, Helsinki, Finland

Abstract

Aim of the study: To evaluate the results after bleomycin sclerotherapy for patients with lymphatic malformations (LMs).

Methods: After institutional approval, the records of all patients <16 years of age with LMs managed with bleomycin sclerotherapy under ultrasound guidance at our tertiary institution between 2009–2019 were assessed for clinical features, interventions, follow-up, and outcomes. Data are presented as median (range).

Main results: A total of 31 patients had undergone bleomycin sclerotherapy (52% male; follow-up time 5 (0.3–13) years) of whom 17 (55%) received combined treatment with other sclerosants for macrocystic components. The age at first bleomycin sclerotherapy was 6 (1–14) years. Presenting features included a palpable mass (52%), pain (45%), swelling (39%), and bleeding/leakage (29%). Bleomycin was used to treat microcystic LMs (48%) or microcystic components of mixed type LMs (52%). Sixty-three sclerotherapy sessions were performed (median 2 (1–9) sessions per patient) with a median dose of 7500 (range, 1125–15000) IU/session, and cumulative dose of 14742 (range, 3000–68500) IU/patient. Complications were uncommon (Clavien-Dindo grade I: 1.6%); no cases of pulmonary fibrosis have occurred to date. Symptomatic improvement, reduction in LM size, or clinical regression was observed in 11/14 (79%) of cases who underwent bleomycin sclerotherapy alone. Similar improvement was noted in 14/17 (82%) of cases who underwent combined treatment.

Conclusions: Microcystic LMs and predominantly microcystic mixed LMs demonstrated a good response to sclerotherapy with bleomycin alone and/or in combination with other sclerosants. Clinical improvement observed in 81% of all cases.

GE37_PO / 13:40 – 13:45

THE UTILIZATION OF SURGICAL SERVICES BY THE ABORIGINAL/TORRES STRAIT ISLANDER AND IMMIGRANT CHILDREN IN AUSTRALIA

Ahmad Faruque
University of Sydney, Sydney, Australia

Abstract

Aim of the Study: This systemic review aims to highlight the burden of common surgical diseases in Aboriginal, Torres Strait Islander, and immigrant children, awareness about surgical services, access to care, and the need to enhance surgical services.

Methods: The researcher conducted a systematic literature review in which eight retrospective and prospective cohort studies were searched from six databases: MEDLINE, EMBASE, PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Google scholar. Trauma, chronic supportive otitis media, rheumatic heart disease, undescended testis, penile abnormalities, and inguinal hernias are the main surgical conditions identified among indigenous, non-indigenous, and immigrant children.

Main results: The Aboriginal and Torres Strait Islander communities experience high-level disparities and unmet healthcare needs. The problems of the study cohort are due to their financial challenges and poverty, which hinder them from accessing healthcare services. There are negative assumptions among healthcare practitioners that prevent them from accessing healthcare services. Most of the doctors who offer services to the Aboriginal and Torres Strait Islander individuals are trained overseas; thus, they do not fully understand the community's health care system and do not integrate well with the community as they provide services.

Conclusions: The study established the need to prioritize the indigenous and immigrant communities and create population-specific and user-friendly models of care. There is a need to understand the connections between culture, land, and ancestors in the indigenous, which connect with the deep past and proceedings into the future.

GE38_PO / 13:45 – 13:50

MULTIDISCIPLINARY TEAM FOR THE MANAGEMENT OF COMPLEX AERO-DIGESTIVE DISEASES: 10 YEARS OF EXPERIENCE OF AN ITALIAN PEDIATRIC TERTIARY CARE CENTER.

Andrea Conforti[1], Duino Meucci[2], Marilena Trozzi[2], Pietro Bagolan[1]
[1]Neonatal Surgical Unit - Bambino Gesù Children's Hospital, Rome, Italy. [2]Airway Surgery Unit - Bambino Gesù Children's Hospital, Rome, Italy

Abstract

Aim of the Study: An interdisciplinary approach is crucial for the patients with complex multi-system diseases. In 2012 the Laryngo-Tracheal team was established in our hospital, a multidisciplinary working team for the discussion and management of patients with complex pathologies, including aerodigestive problems. The team consists of stable specialists who participate in the evaluation and management of all cases. Specialists external to the team can be involved depending on the case. Before this organization, these patients were followed with multiple evaluations of single specialists with more difficult communication and coordination. The aim of the study is to define the organization and effects of our team achieved during the 10years of action.

Methods: We evaluated the evolution of the organization of our multidisciplinary team and the impact of the interdisciplinary approach on the management of aerodigestive patients, in terms of outcomes and efficiency.

Main Results: Our team consists of 12 permanent specializations for each meeting, which have weekly frequency. Since the establishment of the Laryngo-Tracheal Team we have had a lower number of the consultations with faster indications and reduction of hospitalization time. We have also obtained a reduced care-giver burden and responsibility, considering that all the decisions and protocols are joint.

Conclusions: It's essential to define and standardize the characteristics and the organization of a multidisciplinary team for the management of complex pediatric pathologies and in particular aerodigestive patients. A multidisciplinary approach to complex pathologies improves the efficiency and the outcomes with a faster decision time and a briefer hospitalization.

GE39_PO / 13:50 – 13:55

MEDICAL STUDENTS' OPINIONS AND SUGGESTIONS TOWARDS A FLIPPED PEDIATRIC SURGERY CLERKSHIP

Gulnur Gollu Bahadır[1], Alper Bayazıt[2], Ipek Gonullu[2], Ergun Ergun[1], Ufuk Ates[1], Meltem Bingol Kologlu[1], Aydın Yagmurlu[1], Ahmet Murat Cakmak[1]
[1]Ankara University Faculty of Medicine, Department of Pediatric Surgery, Ankara, Turkey. [2]Ankara University Faculty of Medicine, Department of Medical Education and Informatics, Ankara, Turkey

Abstract

Aim of the study: The flipped classroom method flips traditional teaching. The theoretical part of the course is given to the student as homework with resource sharing, and high-level cognitive tasks. In this process, educators act as guides and support students' problem-solving processes in classroom activities. The aim of this study is to investigate the students' opinions and suggestions for a flipped pediatric surgery clerkship.

Methods: A four-day pediatric surgery clerkship is planned. Learning materials were uploaded to the learning management system. 10-question multiple-choice quizzes were applied at the beginning of the lesson in order to understand students' preparations and to measure their prior knowledge levels. Quiz results were shared, and students' misconceptions were corrected during the first 15-minutes of each course. Case discussions were given to the students, and small group discussions were provided as in-class activities. Thus, the participants reached the Apply and Analyze levels of learning objectives in Bloom's taxonomy.

Main Results: On the last day of the clerkship, feedback was received from 135 students via a 12-item Likert-type questionnaire. The findings revealed that the flipped classroom approach improves learning by making processes more enjoyable, attracting more attention, and increasing student motivation. As negative aspects, they stated the high volume of contents, and the limited time for preparation. As suggestions, they recommended summarizing contents, increasing the visual materials.

Conclusions: According to the results obtained, it was found that the learning process and motivation were high, although the application for each course that made up the clerkship heavier.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

GE40_PO / 13:55 – 14:00

TWELVE YEARS' EXPERIENCE IN THE ANTIBIOTIC TREATMENT OF POST-APPENDECTOMY ABSCESSES IN CHILDREN REGARDLESS OF SIZE

Julio César Moreno Alfonso[1,2], Raquel Ros[1], Javier Arredondo[1], Ada Molina Caballero[1], Aníbal Teherán[3], Alberto Pérez Martínez[1]
[1]Hospital Universitario de Navarra, Pamplona, Spain. [2]Universidad Pública de Navarra, Pamplona, Spain. [3]Fundación Universitaria Juan N Corpas, Bogotá, Colombia

Abstract

Aim of the Study: To assess the efficacy of antibiotics as first-line therapy for post-appendectomy abscess in children regardless of size.

Methods: Case-control study of children with post-appendectomy abscess admitted at our hospital from 2010 to 2022. The efficacy of antibiotics was compared between abscesses less and more than 6 cm in diameter. The Institutional Ethics Review Board has approved this study.

Main results: A total of 1766 appendectomies were performed from 2010 to 2022 with an incidence of post-appendectomy intra-abdominal abscess of 5% (n= 89): age 9.3 IQR 5.8, 63% male (n= 56). Sixty-seven patients presented with a ≤6 cm abscess (controls) and 22 children had a >6 cm post-appendectomy abscess (cases). Abscess diameter was 4 IQR 2 cm in controls and 7.1 IQR 2.5 cm in cases. Diagnostic images and length of intravenous antibiotics were higher in cases (15 IQR 7 days) than controls (12 IQR 4 days), p= 0.003. The efficacy of antibiotics in controls was 97% whereas 86.4% in cases (p= 0.094), reoperation was needed in 2/67 controls and 3/22 cases, with no differences in complications or readmission. However, the length of stay was longer in cases (15 IQR 6 days) than controls (13 IQR 5 days), p= 0.042.

Conclusions: Antibiotics seem a safe first-line treatment for post-appendectomy intra-abdominal abscesses in children regardless of the size. However, this approach is associated with a longer period of intravenous antibiotics and hospital stay, although not with a higher rate of therapeutic failure, complications, or reoperations.

GE41_PO / 14:00 – 14:05

COMPARISON OF BODYPREP AND POVIDONE IODINE ON THE AMOUNT OF COLONY AT THE SURGICAL SITE IN NEONATES WITH CLEAN WOUNDS

Mehrdad Hosseinpour, Mohsen Lotfipour
Isfahan University of Medical Sciences, Isfahan, Iran, Islamic Republic of

Abstract

Aim of the Study: The presence research focused compares the effect of BodyPrep and Povidone iodine (PVP-I) as topical antiseptic on surgical site in neonates.

Methods: A total of 70 neonates who underwent clean surgery were examined in two separate groups (35 neonates in any group) by PVP-I and BodyPrep as topical antiseptic on surgical site. The Colony count before and after use of PVP-I and BodyPrep was selected as an analytical factor to investigation role topical antiseptic on surgical site. In the other hand we examined TSH level in the PVP-I prep group. We evaluated the differences between the patients in mentioned groups.

Main results: The results showed that use of PVP-I and BodyPrep in surgical site in neonates, the amount of colony count and TSH level did not significant changed and this confirms that the PVP-I is as effective as the BodyPrep which is widely used for this purpose. On the other hand, no grossly changes in the surgical site such as wound infection or local sensitivity were observed in both groups.

Conclusion: The reported results in the present research did not find differences in antiseptic action between PVP-I and BodyPrep.

GE42_PO / 14:05 – 14:10

CONSERVATIVE VERSUS SURGICAL MANAGEMENT OF NEONATAL OVARIAN CYSTS

Samuel Dan Israel Benchaya, Laura Pérez Egido, Isabel Bada Bosch, María Dolores Blanco Verdú, Sara Monje Fuente, María Fanjul Gómez, Agustín Cañizo López, Julio Arturo Cerdá Berrocal, María Antonia García Casillas, David José Peláez Mata, Juan Carlos De Agustín Asensio
Hospital General Universitario Gregorio Marañón, Madrid, Spain

Abstract

Aim of the Study: Review of our experience in the management of neonatal ovarian cysts and their long-term evolution.

Methods: We performed a retrospective observational study of patients diagnosed with neonatal ovarian cyst in our institution from 2014-2022. We included those who had ultrasound follow-up of the cyst since birth. We excluded cysts with a diameter less than 2 cm. We collected demographic variables, ultrasonographic variables of the cyst and variables regarding therapeutic management (follow-up or surgery).

Main results: The diagnosis of neonatal ovarian cyst was made in 25 patients, 21 of which were selected for the study. The mean size of the cysts was 4.2 +/-1.4 cm. Among all patients, 36% (8/21) had simple cysts and 62% (13/21) had complex cysts. 46% of complex cysts were operated by laparoscopic cystectomy. The rate of ovarian conservation, after 3-12 months of follow-up, was higher in the patients treated conservatively (42%) compared to the operated patients (16%), with no statistically significant differences. In the 3 patients with simple cysts between 4 and 6 centimeters, conservative management was decided, and one case of postnatal torsion occurred.

Conclusions: Neonatal ovarian cysts treated conservatively may have a higher rate of long-term ovarian preservation. In our institution, we consider surgical management as a therapeutic alternative in high-risk cysts.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

GE43_PO / 14:10 – 14:15

BLOOD CELL INDICES AS PREDICTORS OF COMPLICATED APPENDICITIS IN CHILDREN

Julio César Moreno Alfonso[1,2], Raquel Ros[1], Javier Arredondo[1], Ada Molina Caballero[1], Aníbal Teherán[3], Alberto Pérez Martínez[1]
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[3]Fundación Universitaria Juan N Corpas, Bogotá, Colombia

Abstract

Aim of the Study: To assess the accuracy of neutrophil-to-lymphocyte ratio (NLR), derived neutrophil-to-lymphocyte ratio (dNLR), platelet-to-lymphocyte ratio (PLR) and monocyte-to-lymphocyte ratio (MLR) for distinguishing uncomplicated (UA) and complicated appendicitis (CA) in children.

Methods: Diagnostic study of patients with acute appendicitis who were admitted at our hospital from 2021 to 2022. NLR, dNLR, PLR and MLR were compared between groups. The Institutional Ethics Review Board has approved this study.

Main results: A total of 182 patients were included: 116 cases with CA (62.9% male, age 9.6 IQR 5.5 years) and 66 patients with UA (33.3% female, age 10.6 ± 2.7). All blood cell indices were significantly higher in the CA group than UA (p= < 0.0001). NLR, dNLR and PLR have a good area under the receiver operating characteristic (ROC) curve whereas MLR has a regular one (0.735) (Fig.). PLR was the most accurate predictor of CA with a sensitivity of 72%, specificity 80%, positive predictive value 87%, negative predictive value 62%, area under ROC curve 0.802 (CI95% 0.737-0.866) and cut-off point for diagnosis of CA of 213.32. Positive and negative likelihood ratios of NLR, dNLR and PLR were 2.99 and 0.36; 3.06 and 0.49; and 3.6 and 0.2, respectively

Conclusions: PLR seems to be the most accurate cellular index for distinguishing uncomplicated and complicated appendicitis in children. It can be useful as a predictor of intraoperative findings and early postoperative courses.

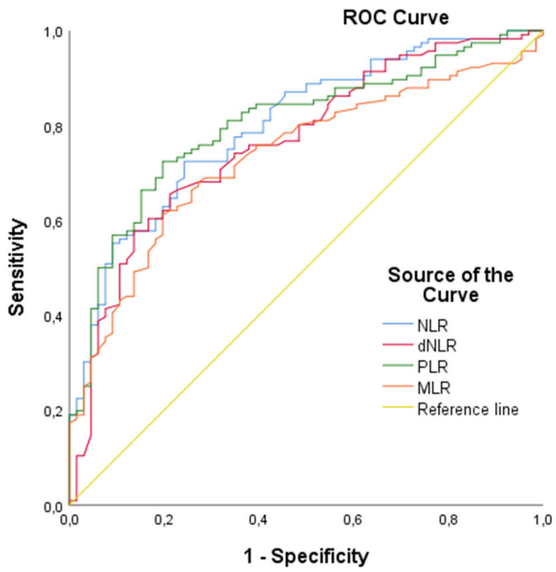


Figure. ROC curve of NLR, dNLR, PLR and MLR to distinguish between complicated and uncomplicated appendicitis in children.

GE44_PO / 14:15 – 14:20

CATEGORIZATION AND EARLY DIAGNOSIS OF THE OHVIRA SYNDROME.

Ana Ramirez Calazans, Rosa Maria Ibarra Rodriguez, Veronica Vargas Cruz, Marina Sepulveda Casas, Montserrat Anton Gamero, Rosa Maria Paredes Esteban
Reina Sofía Hospital, Córdoba, Spain

Abstract

Aim of the Study: In recent years, the better categorization of OHVIRA syndrome (OS) has allowed early diagnosis in those patients with renal anomalies detected prenatally. Our objective is to describe the characteristics of these patients in our environment in order to avoid diagnostic and therapeutic delay.

Methods: Retrospective review of medical records of patients under 18 years diagnosed with OS in the last 25 years. Analysis of the clinical and demographic characteristics, diagnosis, follow-up, treatment, and complications of the patients.

Main results: 14 women, current mean age 15.85±6.35 years, with abnormalities of genitourinary development. All with single functioning kidney (64.3% prenatal diagnosis): 50% multicystic renal dysplasia, 35.7% renal agenesis, 7.1% renal atrophy and 7.1% double excretory system. During ultrasound follow-up, diagnosis of uterine anomaly: 50% didelphys uterus, 42.9% bicornuate uterus and 7.1% unicornuate uterus. Mean age at diagnosis of uterine anomaly 10.95±6.13 years. 21.4% diagnosed in the first year of life, the rest at pubertal age. The diagnosis of OS was confirmed in 7 patients by MRI, the rest pending completion of the study due to prepubertal age or absence of symptoms. 3 patients with OS required urgent drainage due to gynecological complications (1 pyometrocolpos, 2 hydrometrocolpos). Surgical treatment of 6 patients by means of cystoscopy, vaginoscopy and vaginal septostomy.

Conclusions: Given the prenatal or early diagnosis of unilateral renal pathology in girls, it is necessary to rule out the presence of Müllerian anomalies in order to improve surgical planning and avoid complications that could cause obstetric problems in the future.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE

European Paediatric Surgeons' Association

GE45_PO / 14:20 – 14:25

MINIMALLY INVASIVE SURGERY IN THE TREATMENT OF NEONATAL OVARIAN CYSTS: A SYSTEMATIC REVIEW

Giovanni Parente[1], Ilaria Marcoccio[1], Francesca Galbiati[1], Giulia Del Re[1], Anna Maria Fagnani[1], Ernesto Leva[1,2]
[1]Pediatric Surgery Department, IRCCS Fondazione Ca' Granda Ospedale Maggiore Policlinico, Milano, Italy. [2]Department of Clinical Sciences and Community Health, University of Milan, Milano, Italy

Abstract

Aim of the study: The estimated incidence of clinically significant ovarian cysts is 1/2500 live births. Surgical management of cysts larger than 4 cm is not yet standardized. The aim of the study is to review the current literature regarding the role of minimally invasive surgery (MIS) in the management of neonatal ovarian cysts (NOC).

Methods: Using PRISMA guidelines, PubMed and EMBASE databases were searched for reports on MIS in NOC treatment, using the terms "laparoscopy neonatal ovarian cyst". Technique, complications and long-term results were evaluated.

Main results: 105 reports were originally identified: 44 were included in the systematic review. Most authors reported laparoscopic approaches to NOC performing ovariectomy, salpingectomy or intracorporeal cystectomy, which is described either by two or three-port laparoscopy. Few reports described percutaneous cyst aspiration under direct laparoscopic vision (one trocar). A less described procedure is the laparoscopic-assisted trans-umbilical extracorporeal cystectomy (LATEC). Access to the peritoneal cavity is mostly performed with open approach but Verres needle is also cited. Most authors use CO2 insufflation to create intra-abdominal workspace, but abdominal suspension was described too. A few authors present the use of 3D-laparoscopy in NOC. Most frequent complications described were surgical site infection, abdominal wall hematoma and subcutaneous emphysema.

Conclusions: MIS in NOC proved to be safe, feasible and effective if respected the following advice: to prefer open technique for the first port placement, to keep low intra-abdominal pressures, to use microsurgical instruments and worm CO2 insufflation. LATEC seemed to guarantee best aesthetic result with less operative time.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

GE46_PO / 14:25 – 14:30

A RETROSPECTIVE ANALYSIS OF BIRTH WEIGHT AND GESTATIONAL AGE CORRELATIONS WITH ILEOCECAL VALVE RESECTION, SURGICAL PROCEDURES, AND INTESTINAL PERFORATION

Manuela Neyer[1], Allyson Wenner[2], Patrick Sezen[3], Carlos Reck[4]
[1]Medical Universtity of Vienna, Vienna, Austria. [2]Melk Hospital, Melk, Austria. [3]Medical University of Vienna, Vienna, Austria. [4]Mödling Hospital, Mödling, Austria

Abstract

Aim of the Study: To conduct a retrospective analysis of the medical records of VLBW and ELBW patients who underwent intestinal surgery before discharge from the NICU. We aimed to identify differences in birth weight and gestational age on the rate of ileocecal valve resection, the total number of surgeries performed, and the incidence of intestinal perforation.

Methods: We conducted a retrospective analysis of infants with a birth weight < 1500 g, who underwent laparotomy prior to discharge from the NICU between 2015-2021. Patient characteristics, diagnosis, number of surgical interventions needed, surgical approach, length of bowel resection, and one-year follow-up visits were evaluated. Statistical analysis was made with Pearson's chi-square test, independent t-tests. A p-value of < 0.05 was considered statistically significant. Pearson's correlation coefficient, r, was used to assess a potential correlation between two metric variables.

Main results: Birth weight ($p = .639$) and gestational age at birth ($p = .388$) did not statistically correlate with the rate of ileocecal valve resection, intestinal perforation ($p = .120$; $p = .095$), or the number of surgeries performed ($r (93) = 0.13$, $p = .209$). A statistically significant higher perforation rate was noted in patients who received earlier laparotomy ($p = .003$).

Conclusions: There was no statistically significant correlation between birth weight and gestational age regarding the rate of ileocecal valve resection, intestinal perforation, or the number of surgical procedures required among patients that underwent exploratory laparotomy. 39% of all patients requiring ileocecal valve resection later developed short bowel syndrome.

13:30 - 14:30

Poster Presentation Session 20

LoWer Gastrointestinal II

(M2) Studio 1+2

Chair: Roxanne Rassouli-Kirchmeier (NED)

Ivo de Blauww (NED)



LG03_PO / 13:30 – 13:35

INFLUENCE OF LATE DIAGNOSIS ON TOTAL COLONIC AGANGLIONOSIS

María San Basilio, Alejandra Vilanova, Carla Ramírez-Amorós, María Sarmiento, Ane Andres, Leopoldo Martínez
Hospital Infantil La Paz, Madrid, Spain

Abstract

Aim of the study: The presentation of total colonic aganglionosis (ACT) is variable and is not consistent with the classic presentation of Hirschsprung's disease. The objective of the study is to analyze the presentation, surgical treatment and complications in our series of cases.

Methods: Retrospective review of patients with ACT divided into two groups according to age at diagnosis (early diagnosis before 40 days of life and late diagnosis after 40 days). Demographics, form of presentation, surgical treatment, complications, and follow-up were evaluated.

Main results: Twenty-seven patients (14 men) were included, of whom 13 (48.1%) had a late diagnosis with a median of 60 days of life (47-420) versus 14 days (4-20) in those with early diagnosis. Delayed passage of meconium was described in 50% of the patients with early diagnosis and in 30.7% of the patients with late diagnosis (p= 0.310). We found no differences in the number of surgical interventions required before diagnosis (4 patients in each group). Postoperative complications after ileo-anal pull-through were described in 42.9% of patients with early diagnosis and in 69.2% of patients with late diagnosis (p=0.168). At the time of the study, with a median age of 19 years (7-27), 8 patients with early diagnosis and 5 with late diagnosis had recurrent enterocolitis and a total of 18 patients received chronic decontamination treatment.

Conclusions: Total colonic aganglionosis has an atypical presentation and frequently entails a diagnostic delay that does not influence complications or long-term outcomes.

LG04_PO /13:35 – 13:40

MACHINE LEARNING FOR THE PREDICTION OF NECROTIZING ENTEROCOLITIS IN PRETERM INFANTS

Rosa Verhoeven, Thijmen Kupers, Celina Brunsch, Jan Hulscher, Elisabeth Kooi
University Medical Center Groningen, Groningen, Netherlands

Abstract

Aim of the Study: Necrotizing enterocolitis (NEC) is difficult to predict, even in highest risk infants. This study aimed to investigate if machine learning (ML) could help to predict NEC using parameters from the first postnatal days.

Methods: Three ML models were trained to predict NEC in patients admitted to our NICU between 2018-2022. High-risk infants (gestational age < 30 weeks) surviving >7 days without NEC were included. To establish the effect of class imbalance on model performance, the control group was randomly downsampled to obtain several NEC:control ratios.
Input variables consisted of gestational age, birth weight, sex, and vital data (heart rate, respiratory rate, SpO_2, cerebral and splanchnic rSO_2) of the first five postnatal days. Time Series FeatuRe Extraction on basis of Scalable Hypothesis tests (TSFRESH) was used to extract significant features from these vitals. Predictive power is portrayed by F1-scores and precision-recall (PR)-AUCs.

Main results: Participant selection resulted in 267 patients (145 boys, median GA 27.9[IQR: 26.4-29.1] weeks, BW 1000.0[830.0-1260.0] grams, 32 NEC, age at NEC 14.5[10.0-22.3] days). Predictive power declined with an increased class imbalance. Best results were obtained by logistic regression (LR) (F1=0.89, PR-AUC=0.95 in 1:1 ratio; F1=0.67, PR-AUC=0.71 in 1:4 ratio, Table 1). Most TSFRESH features were derived from splanchnic rSO_2 (M=47.8%).

Conclusions: LR predicted NEC with an F1-score up to 0.89, with splanchnic rSO_2 as important vital predictor. The diminished predictive power with greater class imbalance warrants more data in future endeavors. Yet, we showed that ML can predict NEC early after birth, allowing for targeted preventive measures.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG05_PO / 13:40 – 13:45

TIMING AND METHODS OF SURGICAL MANAGEMENT OF GIANT EXOMPHALOS; A SYSTEMATIC REVIEW

Harmit Ghattaura[1,2], Andrew Ross[1,2], Bashar Aldeiri[1,2], Amulya Saxena[1,2]
[1]Chelsea and Westminster Hospital NHS Foundation Trust, London, United Kingdom. [2]Imperial College, London, United Kingdom

Abstract

Aim of the study: This systematic review analysed closure techniques and their timing in the recent management of giant exomphalos (GE).

Methods: Cochrane, MEDLINE and EMBASE were searched for English language publications between Jan 1992-Dec 2022 using the following terms and variations: "Omphalocele", "Exomphalos", "Giant", "Closure", "Outcome". Articles describing operative techniques were selected using PRISMA 2020 criteria. Non-English language articles were excluded. Data collected included demographics, timing and technique of surgical repair, method of initial non operative management, morbidity and mortality.

Main results: The search identified 378 articles, of which 39 met inclusion criteria (19 retrospective reviews, 10 case-reports, 10 case-series). Four-hundred and twenty-six neonates were included (49% male, 51% female) for analysis. 31 articles detailed their initial non-operative management (16 dressings, 12 silo, 3 serial sac ligation). Definitive operative management methods; 20 early closure, 13 delayed and 6 mixed (Figure 1). Mean number of procedures was 2.2 (median 2; range 1-6). Mean time to definitive closure was 404 days (delayed 935 vs early 18). One-hundred and thirty-one (30.7%) neonates experienced complications with infection (n=48) and recurrent hernia (n=8) the most frequently reported. The cumulative reported mortality was 56 (13.1%).

Conclusions: Definitions of GE in the literature are heterogenous and accordingly there are a wide variety of management approaches described. This systematic review identified 12 different operative techniques utilised. We identified a mean time to closure of 13.5 months that required on average >2 procedures per neonate. Complications occur in >25% cases along with a cumulative mortality of 13%.

LG06_PO / 13:45 – 13:50

COMPARISON OF LAPAROSCOPIC AND OPEN ILEOCECAL RESECTION FOR COMPLEX CROHN'S DISEASE IN CHILDREN

Vojtech Dotlacil[1], Stepan Coufal[2], Tereza Lerchova[3], Barbora Kucerova[1], Richard Skaba[1], Michal Rygl[1]
[1]Department of Paediatric Surgery, Second Faculty of Medicine, Charles University and Motol University Hospital, Prague, Czech Republic. [2]Laboratory of Cellular and Molecular Immunology, Institute of Microbiology, Academy of Sciences of the Czech Republic, Prague, Czech Republic. [3]Department of Paediatrics, Second Faculty of Medicine, Charles University and Motol University Hospital, Prague, Czech Republic

Abstract

Aim of the Study: Ileocecal resection (ICR) for complex (intra-abdominal abscess and/ or fistula - Montreal B3 disease) Crohn's disease (CD) is often technically demanding and there is still no consensus whether laparoscopic surgery can be routinely recommended as a safe approach. The aim of the study was to compare laparoscopic-assisted and open ICR for complicated CD.

Methods: Retrospective review of complex CD patients who underwent ICR between January 2016 and December 2022 was performed. The patients were divided into open (OG) and laparoscopic (LG) groups. Compared parameters included patients' demographics, clinical characteristics, surgery, duration of hospitalization and follow-up. Complications were classified according to the Clavien-Dindo classification (CDc). Risk factors were identified using multivariable analysis.

Main results: Nineteen patients (12 females, 63.2%) were included in the analysis, thirteen patients in LG. The median duration of surgery was 151 in OG versus 170 in LG (p=0.23) minutes. There was one conversion to open procedure. Postoperative complications were reported in 2 patients (10.5%). There was no significant difference in postoperative complications according to CDc (OG 16.6% vs LG 7.6%, p=1). The median length of hospitalization was 11 in OG and 7 days in LG (p=0.008). The median length of follow-up was 15.5 months.

Conclusion: Even in complex CD form in children the laparoscopic-assisted approach is safe, feasible and had shorter hospital stay and was not associated with increased risk of 30-day postoperative complications.

LG07_PO / 13:50 – 13:55

BOTULINUM TOXIN INTRASPHINCTERIC INJECTION FOR THE TREATMENT OF POSTOPERATIVE OBSTRUCTIVE SYMPTOMS IN PATIENTS WITH HIRSCHSPRUNG'S DISEASE.

Carla Ramirez-Amoros, Maria San Basilio, Alba Sanchez, Ane Andres, Leopoldo Martinez, Alejandra Vilanova
La Paz University Hospital, Madrid, Spain

Abstract

Aim of the Study: Patients with Hirschsprung's disease (HD) may have postoperative obstructive symptoms in the absence of mechanical causes. Botulinum toxin injection (BTI) into the internal anal sphincter (IAS) has been proposed as a treatment. Our aim is to analyse the effect of BTI in the IAS as a treatment for these symptoms.

Methods: Retrospective study of HD patients treated with ITB between 2010-2022. We analysed demographic characteristics, aganglionic length, type of descent, indication and subsequent evolution.

Main results: Of the 60 HD patients studied, 17(28%) required ITB at 14(5-35) months post descent: 9(53%) rectosigmoid, 4(24%) long, 3(18%) total colonic and 1(5%) ultra-short. Laparoscopic descent was performed in 5(30%), transanal in 5(30%) and open in 7(40%). The indication for ITB was dependence on irrigations or high doses of laxatives (12), recurrent enterocolitis (8) and encopresis (4). 88% of patients improved after the first injection with withdrawal of irrigations (10), absence of encopresis (12) and absence of enterocolitis (14). However, 9 (53%) required 2 (2-9) ITB every 5 (5.20-7.90) months. As complications, 1 patient had transitory perineal excoriation. The effectiveness of ITB was not related to the degree of agglanglionism, type of descent, previous treatment, or age (p>0.05).

Conclusions: ITB improves functional obstructive symptoms in patients with already descended HD, decreasing the need for irrigations, episodes of enterocolitis and encopresis. Half of the patients require repeated injections.

LG08_PO / 13:55 – 14:00

EARLY MOTOR DEVELOPMENT IN CHILDREN WITH ANORECTAL MALFORMATION AND HIRSCHSPRUNG DISEASE

Sophia van Streun[1,2], Inge Oldeman[1], Henriette Stemerdink[1], Mirjam van Eck[1], Jessica Warnink[1], Mattijs Alsem[1], Lieke Beltman[1], Ramon Gorter[1], Ernest van Heurn[1], Jaap Oosterlaan[2], Joep Derikx[1]
[1]Emma Children's Hospital Amsterdam UMC, Amsterdam, Netherlands. [2]Follow Me Emma Children's Hospital Amsterdam, Amsterdam, Netherlands

Abstract

Aim of the Study: Children with anorectal malformation (ARM) or Hirschsprung disease (HD) often require surgery in the first year of life. Our previous systematic review has shown that children undergoing surgery for congenital gastrointestinal malformations are at risk for impaired motor development. Studies reporting on motor development in children with ARM or HD are scarce, with most studies being hampered by small sample sizes. The current study investigated early motor development in children with ARM and HD after surgery.

Methods: This study included patients operated in the first year of life for HD or ARM. Motor development was assessed at the age of 6, 12 and 24 months using the Bayles Scales of Infant Development-III (BSID-III) assessing fine and gross motor development and the Alberta Infant Motor Scale (AIMS) at 6 and 12 months measuring gross motor development. Assessments were conducted by physiotherapists as part of routine prospective follow-up. Data of patients were compared to normative data of representative normative samples using mixed models.

Main results: A total 43 children with ARM and 41 with HD were included. As compared to the representative normative sample, children with ARM and HD had poorer gross motor development as measured with the AIMS and BSID at ages 6 and 12 months. A small positive difference was found in fine motor development with the BSID at ages 6 and 24 months when compared to a representative normative sample.

Conclusions: Children with ARM and HD showed impaired gross motor development at the age of 6 and 12 months.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG09_PO / 14:00 – 14:05

LONG-SEGMENT COLONIC HIRSCHSPRUNG'S DISEASE: IS IT WORTH KEEPING THE RIGHT COLON?

Louise Montalva[1], Shahrazad Al Balushi[1], Fulvia Del Conte[1], Liza Ali[1], Emmanuelle Dugelay[2], Arnaud Bonnard[1]
[1]Department of Pediatric Surgery, Robert-Debré Hospital, Paris, France. [2]Department of Pediatric Gastroenterology, Robert-Debré Hospital, Paris, France

Abstract

Aim of the study: Management of long-segment colonic Hirschsprung's disease (HD) is controversial, as performing a total colectomy seems radical but right colon motility may be poor. The aim was to compare the outcomes of long-segment HD that underwent a pull-through of the colon (CD) vs ileum (ID).

Methods: Retrospective study including children with HD that underwent a Duhamel pull-through for long-segment HD extending beyond the left colon (2013-2022).

Main results: Duhamel pull-through for long-segment HD was performed in 25 children (15 CD, 10 ID). CD was performed earlier than ID (3 months vs 12 months,p=0.0078). Reintervention for post-operative complications after CD was required in 26%: diverting stoma for colorectal leakage (n=3) or persistent obstruction (n=1) on median POD30, and 1 spur division on POD48. Total colectomy and ileo-rectal anastomosis for colonic dysfunction was performed in 20% (n=3), with a median delay of 3 years. After ID, no reintervention for post-operative complications or redo-pull-through were performed, and 1 child (10%) required a diverting stoma for dysmotility 18 months after pull-through. Botox injections were performed in 47% CD and 40% ID (p=0.99), with a median delay of 2.4 and 1.5 years, respectively. In children>3 years, 61% of CD and 83% ID had satisfying bowel control (p=0.6).

Conclusions: Whereas children with long-segment colonic HD are expected to have a better outcome compared to ileal HD, performing a Duhamel pull-through on the right colon seems associated with increased rates of reintervention and worse long-term bowel control, compared to Duhamel pull-through of the ileum.

LG10_PO / 14:05 – 14:10

INTESTINAL STRICTURES AFTER CONSERVATIVE MANAGEMENT OF NECROTIZING ENTEROCOLITIS

Raquel Mena, José Andrés Molino, Gabriela Guillén, Sergio López, Marta Martos, Isabel González-Barba, César Ruiz, Manuel López
Vall d'Hebron University Hospital, Barcelona, Spain

Abstract

Aim of the Study: Necrotizing enterocolitis (NEC) is one of the main causes of neonatal acute abdomen and entails high mortality. Many patients receive initial conservative management, being strictures post-necrotising enteroclitis (SPNEC) one of its possible complications. Our aim is to describe their management and outcomes.

Methods: Retrospective analysis from June 2011 to November 2022 of post-NEC strictures after conservative non-surgical management of NEC.

Main results: Out of 219 cases of NEC, 126 received initial conservative management (57,5%). 24 of them (19%) needed posterior surgery for SPNEC. Gestational age and birthweight were 31,3 ± 4,9 weeks and 1964 ± 1009g. All except one were Bell stage II. Stricture diagnosis was made 38,4 ± 16,5 days after NEC debut. 6 asymptomatic patients (25%) were diagnosed after protocol contrast study, 10 (41,6%) after intestinal obstruction confirmed with a contrast enema and 8 (33,3%) presented obstructive symptoms after a normal contrast study. Average age at surgery was 56 ± 17,9 days. 2/3 of stenosis occurred in the cecum, ascendent colon or hepatic flexure. Only 2 involved the small intestine. Primary anastomosis was performed in all cases. Refeeding occurred on postoperative day 4,3 ± 2,9. Two complications of the anastomosis occurred (one dehiscence and one stenosis), and 3 cases were reintervened for adhesive small bowel obstruction during follow-up, without involvement of the anastomosis. No deaths occurred.

Conclusions: Strictures post-necrotising enterocolitis are a common complication after NEC conservative management. Deferred surgical treatment after NEC debut and shorter resections improve outcomes and prognosis in these patients.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG11_PO / 14:10 – 14:15

THE POSTERIOR SAGITTAL APPROACH FOR THE RESECTION OF RECTO URINARY FISTULA (RUF) AFTER PERINEAL RECONSTRUCTION OF ANORECTAL MALFORMATION

Md Samiul Hasan, Ashrarur Rahman, Nazmul Islam
Bangladesh Shishu Hospital and Institute, Dhaka, Bangladesh

Abstract

Aim of the Study: This study aims to demonstrate the outcome of the posterior sagittal approach for the resection of persistent and acquired RUF after the definite reconstruction of ARM.

Methods: We have retrospectively reviewed the demographic and clinical records of the boys who underwent resection of persistent or acquired RUF in the posterior sagittal approach in our department. We used a structured questionnaire to record patient demography, type of ARM, timing and type of definitive surgery, preoperative workup, and outcome of revision surgery (Video). The Krickenbacks continence score has been used to evaluate the functional outcome.

Main results: Eleven boys underwent persistent or acquired RUF resection in the posterior sagittal approach. Eight patients had PSARP with a persistent RUF, and three had anoplasty with an acquired RUF. Ten patients had additional misposition of the neoanus, and two had neoanal stenosis. Micturating cystourethrogram (MCU), distal loopogram, and perineal examination under anesthesia confirmed the diagnosis and location of recto urinary fistula in all patients. No patient had a recurrence of fistula. Mean operation time was higher in patients with previous PSARP. One patient developed urinary retention; Three patients had superficial wound infections. All the boys have voluntary bowel movements. No patient has soiling; three patients have grade one constipation.

Conclusions: The posterior sagittal approach provides excellent visualization for the resection of RUF, though the dissection is difficult in patients with previous PSARP wounds. However, Long-term follow-up is needed to observe urethral stricture formation in these boys.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
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LG12_PO / 14:15 – 14:20

Surgical intervention for intussusception: A national multi-center study in (country).

Shirin Gosavi[1], Kristine Jung[2], Brodie Elliott[3], Udayangini Samarakkody[1], Andrew Weston[4], Georges Tinawai[5], Samuel Haysom[6], Shona Naera[6], Jonathan Wells[6], Stephen Evans[3]
[1]Waikato Hospital, Hamilton, New Zealand. [2]Waikato Hospital, University of Auckland, Auckland, New Zealand. [3]Starship Hospital, Auckland, New Zealand. [4]Starship Hospital (University of Auckland), Auckland, New Zealand. [5]Wellington Hospital, Wellington, New Zealand. [6]Waipapa Hospital, Christchurch, New Zealand

Abstract

Aim of the Study: Non-operative management of intussusception is common; however, children undergo surgery directly or after failed enema reduction. We aimed to review the indications and outcomes of operative management in (country) where a national guideline is lacking.

Methods: We performed a national retrospective multi-center study of children (<15y) who had interventions for intussusception across the four paediatric surgical centers between 01/01/2007 and 01/01/2022. The demographics, duration of symptoms, type of intussusception, lead point, outcomes of interventions, time to full feeds, and length of hospital stay were collected. The primary outcome was the success and indication for surgery. Statistical analysis was performed using the Mann-Whitney U test.

Main results: Of the 502 patients with intussusception, the median age was 0.9 yrs. Three hundred and fifty-one (69.9) % were male. Forty-eight (9.5%) patients had a pathologic lead point. One hundred and eighty patients (35.8%) underwent surgical management of their primary intussusception, varying among centers from 29.7% to 46.2%. A total of 58 children underwent direct operative intervention, but 122 (65.9%) had surgery after unsuccessful enema reduction, with an inter-center variation of 22% to 38%. Four (0.9%) had post-enema perforation requiring surgery. Of the 180 children who underwent surgery, 140 (77.7%) were open, and 40 (23.3%) were laparoscopic. The length of hospital stay was 49.1 hours and 109.2 hours ($p<0.00001$) for laparoscopic and open surgery, respectively.

Conclusions: There are significant inter-center differences in the utilization of surgical intervention for intussusception. This finding supports standardizing the national management of intussusception in our country.

LG13_PO / 14:20 – 14:25

BOWEL FUNCTION AND GASTROINTESTINAL QUALITY OF LIFE IN HIRSCHSPRUNG ADOLESCENTS

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[1]University of Oslo, Oslo, Norway. [2]Department of pediatric surgery, Oslo University Hospital, Oslo, Norway

Abstract

Aim of study: To investigate bowel function and gastrointestinal quality of life (QoL) in Hirschsprung (HD) adolescents.

Methods: Retrospective chart review and cross-sectional study of bowel function and gastrointestinal QoL in HD adolescents 12-18 years using the Bowel function score (BFS) and Pediatric Quality of Life Inventory Gastrointestinal Symptoms Module (PedsQoL-GI) questionnaires. Ethical approval was obtained.

Main results: Of 71 identified HD patients, 57 (80%) answered the questionnaires. 44 (77%) were boys. 46 (81%) had rectosigmoid aganglionosis, seven (12%) more proximal or total colonic aganglionosis, and four (7%) had aganglionosis reaching the jejunum. 53 underwent a pull-through procedure (46 endorectal pull-through, 7 Duhamel), and four have a jejunostomy. At follow-up at median 14 (12.0-18.3) years, 19/53 (33%) of patients having undergone a pull-through operation, used bowel management (16 had appendicostomy, 3 did rectal washouts). None had a permanent enterostomy. BFS was median 18 (8-20) in the 34 remaining patients. The total PedsQL-GI score was mean 85.5. The items with the lowest scores were "Gas and bloating" (mean 66.7) and "Stomach pain and hurt" (mean 74.6). All scores were within the 1 SD cut-off reported in healthy controls. The four patients with jejunal aganglionosis had substantial lower PedsQoL-GI scores as their mean score was 74.7.

Conclusions: One third of HD adolescents having undergone a pull-through operation used bowel management. Despite frequent bowel problems, overall gastrointestinal QoL was good.

LG14_PO / 14:25 – 14:30

TESTING THE VALIDITY OF THE NUCLEAR MEDICINE COLON TRANSIT STUDY (NCTS): IS SLOW COLON TRANSIT FAMILIAL?

Caitlin McCulloch, Paul Jenkins, David Croaker
Australian National University, Canberra, Australia

Abstract

Aim of the Study: Chronic severe constipation (CSC) is a common symptom worldwide. Significant numbers of our patients are investigated with NCTS. We asked how useful the test was in investigating CSC. We aimed to test the hypothesis that functional faecal retention (FFR) and STC would show different inheritance and clinical features.

Methods: A retrospective chart review of children who had undergone NCTS from 2006 – 2021. Patients were grouped by radiological diagnosis. Clinical features, family history, and short-term outcomes were compared.

Main results: 203 patients were included. 18.7% were reported as normal transit; 19.7 % FFR; 48.8% STC; 12.8% mixed STC and FFR. There were no significant differences in the clinical presentation of these groups, nor in the likelihood of having affected siblings. There was a significant association between abnormal transit and family history of neuropsychiatric disorder (2.6% of family members of patients with normal transit study; 21.3% of family members with STC p = 0.01). Patients with abnormal transit had less improvement at last review (91% improved after at least three months with a normal study, against 55% with STC improved p = 0.02), and a slightly greater likelihood of requiring appendicostomy.

Conclusions: STC is not more heritable than other types of constipation, but an abnormal NCTS is predictive both of a more difficult course and of a family history of neuropsychiatric disorder. The most important difference is between normal and abnormal rather than between FFR and STC. NCTS can nonetheless be a useful adjunct to the management of CSC.

13:30 - 14:30

Poster Presentation Session 21

Lower Gastrointestinal III

(M2) Studio 1+2

Chair: Kivilcim Karadeniz Cerit (TUR)

Louise Montalva (FRA)



LG15_PO / 13:30 – 13:35

HOW OFTEN DO WE NEED FECAL DIVERSION IN CHILDREN WITH PERIANAL CROHN DISEASE? CASE-CONTROL STUDY.

Olga Shcherbakova, Linara Khabibullina
Clinical Hospital Russian National Research Medical University named after N.I. Pirogova of the Ministry of Health of Russia, Moscow, Russian Federation

Abstract

Aim of the Study: Perianal Crohn disease (PCD) often lead to irreversible destruction of the anal sphincter and development of fecal incontinence. Due to PCD sometimes it is required to use the fecal diversion. Objective: to analyze our experience in treating patients and identify factors associated with stoma in children with PCD.

Methods: the results of treatment of 112 patients with PCD for the period from 2009 to 2022, treated in 2 large clinics in Moscow, were analyzed. All patients were divided into 2 groups: 1st group with fecal diversion (24), 2nd group – without stoma (88). Gender, age of manifestation of the disease, form and localization of CD, type of perianal lesions, operations on the perineum and abdominal cavity were analyzed.

Main results: In our research, the stoma in patients with PCD was more often performed in the presence of abdominal surgery for intra-abdominal infiltrates, strictures of the small and large intestine, fistulas (p = 0.0091), terminal ileitis (0.02), rectal stenosis (p =0.03). Factors influencing the need for stoma removal are included in a logistic regression, which demonstrated that an independent factor in the need for stoma in a patient with PCD is the presence for abdominal surgery (OR: 1.46; 95% CI : 1–2.2, p=0.05).

Conclusions: Our study showed that not all patients with PCD require fecal diversion. However, the combination of severe perianal lesions with lesions of the small and large intestine significantly aggravates the patient's condition and may require the stoma.

LG16_PO / 13:35 – 13:40

RESULTS OF LAPAROSCOPIC SACRAL RECTOPEXY FOR IDIOPATHIC RECTAL PROLAPSE IN CHILDREN

Ali Ekber Hakalmaz[1], Merve Gokbuget[1], Turkan Rahimli[1], Cigdem Tutuncu[2], Rahsan Ozcan[1], Gonca Topuzlu Tekant[1]
[1]Istanbul University-Cerrahpasa, Cerrahpasa Faculty of Medicine, Department of Pediatric Surgery, Istanbul, Turkey. [2]Istanbul University-Cerrahpasa, Cerrahpasa Faculty of Medicine, Department of Anesthesiology, Istanbul, Turkey

Abstract

Aim of the Study: To evaluate the results of laparoscopic sacral rectopexy (LSR) for treatment of idiopathic rectal prolapse (IRP).

Methods: IRP cases treated with LSP between December 2021 - July 2022 were reviewed retrospectively. All cases had persistent RP that had not responded to medical treatment and/or injection sclerotherapy treatment for a duration more than 1 year.

Main results: Four patients were included the study. Mean age was 10,5 years (6-14). Mean symptomatic period was 3,6 years (8mo-10y). No parasitic infections, polyps or enteropathy had been identified. Two patients had failed injection sclerotherapy before surgery. There were no anatomical or neuropsychiatric disorders. All patients underwent LSP. The average duration of the procedure was 105 minutes (80-120 minutes), the hospital stay was 42 hours (24-72 hours). Oral laxatives and high fiber diet were given to patients for 3 months to prevent constipation and straining in the postoperative period. The mean follow-up period was 9,7 months (8-12 months) and currently all cases are clinically well and have not developed any recurrent rectal prolapse.

Conclusions: LSP is a safe and effective minimally invasive procedure that provided good results in the short-term follow-up, with a short hospital stay, in persistent IRP cases unresponsive to conservative treatment in the pediatric age group.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE

European Paediatric Surgeons' Association

LG17_PO / 13:40 – 13:45

GOING TO PRIMARY SCHOOL IN CHILDREN WITH ANORECTAL MALFORMATIONS: THE PARENTS' PERSPECTIVE

Cunera de Beaufort[1], Josef Atay[1], Marijke Voskeuil[1], Caroline Kuijper[1], Sjoerd de Beer[1], Justin de Jong[1], Arnout de Bos[2], Svenja Vennink[2], Ernest van Heurn[1], Ramon Gorter[1]
[1]Amsterdam UMC, Amsterdam, Netherlands. [2]Vereniging Anusatresie, Huizen, Netherlands

Abstract

Aim of the Study: To evaluate experience with toilet facilities at primary schools in the Netherlands of parents of children with anorectal malformations (ARM) aged 3-12 years.

Methods: A survey was developed in collaboration with the national patient advocacy group (PAG) for ARM, comprising two domains: general questions regarding school and specific questions regarding toilet facilities and experiences how schools deal with children with ARM. Participants were parents of school-going children with an ARM, aged 3 to 12 years. Recruitment for participation is done by the PAG (email-listing and social media) and one expertise centre. The survey will be closed by March 1st 2023.

Main results: Preliminary results show responses of 43 participants. Median age of children participating in this project was 7.0 years (IQR 5.0-9.0). Schools were often located in a village (65.9%) and encompassed 100-500 children (79.5%). In total, 6/43 parents experienced difficulties in choosing a primary school. Experiences with school were described as solely positive (n=18), solely negative (n=3), both positive and negative (n=15), and neither positive nor negative (n=6). Regarding school toilet facilities, approximately 61% the toilets were reported clean, and 82% easily accessible.

Conclusions: The period of going to primary school in children with ARM might be stressful for both parents and children. About 10% report difficulties in choosing a primary school and 41% report negative experiences. This highlights the need for improving guidance during this period, and to optimise education of schools when dealing with children with ARM. Further research is needed to explore possibilities of improving this.

LG18_PO / 13:45 – 13:50

INFLUENCE OF BMI AND RISK OF COMPLICATED ACUTE APPENDICITIS IN CHILDREN.

Ana Ramirez Calazans, Francisco Javier Murcia Pascual, Luz Emigdia Zelaya Contreras, Maria Rosa Ibarra Rodriguez, Rosa Maria Paredes Esteban
Reina Sofía Hospital, Córdoba, Spain

Abstract

Aim of the Study: Child and adolescent obesity is a growing public health problem nowadays. Our objective is to analyze whether there was an increased probability of complicated acute appendicitis in obese children, as well as post-surgical complications.

Methods: Retrospective study in patients operated on for acute appendicitis in 2022. Two groups: normal weight (NP) vs obesity (O). The variables BMI, sex and age, evolution time, type of appendicitis (complicated vs. uncomplicated), surgical time, surgical technique, average stay, and postoperative complications were evaluated.

Main results: 117 patients were operated on, 65.8% male and 34.2% female, mean age 8.87±2.96 years. 78.6% normal weight and 21.4% obesity group. Mean evolution time to diagnosis 31.68±19.78 hours in PN vs 26.52±17.81 hours (p=0.240). 38% of complicated appendicitis in NP vs 52% in O (p=0.208). Surgical technique used in PN 47.8% open appendectomies, 22.8% laparoscopic, 29.3% video-assisted; compared to 40%, 40%, 20% in O, respectively (p=0.215). Mean surgical time 67.13±20.73 minutes in NP vs 76.44±24.5 in the obesity group (p=0.058). Mean stay 2.99±2.88 days for NP vs 2.64±1.44 for O (p=0.561). Readmission rate 5.4% in NP vs 8% (p=0.632). Complication rate 9.8% vs 12% (p=0.746): surgical wound infection 4.3% vs 8% (p=0.463), wound dehiscence 0% vs 4% (p=0.054) and intra-abdominal abscess 8.7% vs 8% (p=0.912).

Conclusions: Despite the fact that our population has an incidence of obesity higher than the Spanish average, we have not shown that BMI influences the evolution of acute appendicitis or its post-surgical complications in our center.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG19_PO / 13:50 – 13:55

THE NEED OF LAXATIVES IN PATIENTS WITH ANORECTAL MALFORMATIONS: IS COMPLEXITY A PREDICTOR OF WORSE RESULTS?

Catarina Carvalho[1], Leopoldo Martinez[2], Alba Sanchez-Galán[2], Ane Andrés Moreno[2], Alejandra Vilanova-Sanchez[2]
[1]Centro Hospitalar Universitário do Porto, Porto, Portugal. [2]Hospital Universitario La Paz, Madrid, Spain

Abstract

Aim of the Study: Anorectal malformation (ARM) often need long-term laxatives use. Usually, polietilenoglicol (PEG) is started but soon needs replacement by sennosides for fecal accidents (FA), although there is no standardized protocol for laxative transition. We aimed to evaluate effectiveness of our bowel management protocol in ARM.

Methods: Patients treated in our center from 2018-2022 were grouped by bowel control prognosis; 1: good (perineal), 2: intermediate (vestibular, vaginal or rectobulbar) and 3: bad (rectoprostatic, short common channel cloaca). Complex ARM and age<2 years were excluded. Laxative use, transition and failure were compared by groups, gender, vertebral anomalies (VA), genetic syndromes (GS), sacral index (SI) and prior colostomy.

Main results: 43 patients were evaluated. Median age was 4.3 years; 74% were males and 86% were group 1 and 2. Laxatives were initiated in 72%, 190 days postoperatively; 87% started on PEG, half requiring change to sennosides for FA after 133 days. These patients had median dose of 28.5mg, 62% without FA; Neither malformation type or presence of GS influenced laxative use or bowel control ($p>0.05$). VA ($p=0.000$) and SI≤0.5 ($p=0.010$) were associated with more FA after laxative transition, but not in dosage nor failure. Males and prior colostomy had to transition earlier ($p=0.024$ and $p=0.002$ respectively).

Conclusions: Most ARM patients need stimulant laxatives after 4 months of colostomy closure independently of the type of ARM. Patients with VA or low SI have more FA, although not predicting dose nor failure of laxatives.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG20_PO / 13:55 – 14:00

ANORECTAL MALFORMATIONS — RESULTS OF TREATMENT AND LONG-TERM FOLLOW-UP IN 297 PATIENTS: A TERTIARY CENTER EXPERIENCES

Elif Emel Erten[1], Can İhsan Öztorun[2], Vildan Selin Çayhan[1], Süleyman Arif Bostanci[1], Tuğba Örnek Demir[3], Sabri Demir[3], Ahmet Ertürk[2], Müjdem Nur Azili[2], Emrah Senel[2]
[1]ankara Bilkent City Hospital Department Of Pediatric Surgery, Ankara, Turkey. [2]ankara Yildirim Beyazit University School Of Medicine Department Of Pediatric Surgery, Ankara, Turkey. [3]university Of Health Sciences Department Of Pediatric Surgery, Ankara, Turkey

Abstract

Aim of the Study: Here, we aimed to share the clinical features and surgical treatment of Anorectal malformation (ARM) and report the long-term outcomes.

Methods: All patients treated for ARM in our clinic between 1995-2022 were evaluated in terms of demography, clinical presentations, types of malformations, associated anomalies, surgery, post-operative complications and long-term outcome retrospectively.

Main Results: 297 patients (46.1% female) were operated for ARM. 102 patients (34.3%) had perineal fistula, 59 patients (19.9%) had rectourethral fistula, 7 patients (2.4%) had rectovesical fistula, 55 patients (18.5%) had rectovestibular fistula, 23 patients (7.7 %) persistan cloaca, 14 patients (4.7%) had no fistula, 37 patients (12.5%) had rare/regional variants. 14 patients (4.7%) died due to prematurity, sepsis, severe cardiac malformations, and syndromes. In surgery, 126 (44.5%) patients underwent perineal anoplasty and single stage posterior sagittal anorectoplasty (PSARP), 37 (13.1%) abdominoperineal procedures, 120 (42.4%) three-stage repairs. Associated cardiac anomaly was detected in 138 patients (46.5%), urinary system anomaly in 85 patients (28.6%), spinal dysraphism in 42 patients (14.1%). The mean of follow-up was 4.9 (1-35) years. Constipation was observed in 65 patients (28.5%). 26 patients older than 5 years of age (15.8%) had stool incontinence at least once a week. The mean age of the patients to be fully continence was 12.1.

Conclusions: The results of surgery in the treatment of ARM are promising. A single stage PSARP can be performed in suitable patients. ARM is a congenital malformation that should be followed for a long time, even if it is successfully treated.

LG21_PO / 14:00 – 14:05

SURGICAL TREATMENT OF INTRACTABLE CONSTIPATION: RECTOSIGMOID COLONIC RESECTION

Mucahit Erman, Ulgen Celtik, Meltem Polat, Keziban Babadag, Ahmet Celik, Orkan Ergun, Emre Divarci
Ege University Faculty of Medicine, Department of Pediatric Surgery, İzmir, Turkey

Abstract

Aim of the Study: Functional constipation is managed conservatively with good response. However, patients who have intractable constipation despite maximum medical treatment should require surgical management. Rectosigmoid colonic resection(RSR) is a surgical option for patients with mega rectosigmoid colon. We aimed to present our experience in selected twelve cases.

Methods: Patients underwent rectosigmoid resection (RSR) due to resistant functional constipation between 2019-2022 were evaluated retrospectively. Demographics, clinical and radiological findings, operative complications and follow-up period were reviewed.

Main results: 650 patients underwent medical treatment due to constipation in our department during the study period. Twelve patients required RSR due to failure of the medical treatment (1.8%). The median age at operation was 7.5 (3-19) years. Six patients suffered from constipation, five with added fecal incontinence. One patient was admitted to the hospital with serious metabolic derangement. Eleven patients underwent laparoscopic-assisted resection, and one patient underwent laparotomy-assisted transanal rectosigmoid resection due to previous abdominal operations. There were no intraoperative or postoperative complications. Median follow-up period was 31.5 (3-40) months. In follow-up period, fecal incontinence totally has been resolved in all patients. Two patients continued to use low-dose laxatives, but they had significant improvement in constipation. One patient did bowel washout through antegrade colonic enema once a week. There was no additional laxatives or enemas requirement.

Conclusions: RSR provided a reasonable response in selected patients in our clinical experience. It seems a reliable surgical option, especially for patients with mega rectosigmoid colon who did not respond to maximal medical treatment.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG22_PO / 14:05 – 14:10

RECTAL BIOPSY. IS IT REALLY NECESSARY IN ANORECTAL MALFORMATIONS?

Emine Burcu Çığşar Kuzu[1], Mustafa Onur Öztan[2], Birsen Gizem Ozamrak[3], Dudu Solakoglu Kahraman[3], Gökhan Köylüoğlu[2]
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Abstract

Aim of the Study: The coexistence of Hirschsprung's disease (HD) with anorectal malformation (ARM) is rare but many surgeons still ask to pathologists to look for ganglia in terminal rectum or fistula. In this study we aimed to highlight the rarity of this association and question the necessity of histological evaluation.

Methods: After ethical approval (No:2022/12-41) rectal specimens of ARM patients who underwent corrective surgery in the last 8 years were re-analyzed by two blinded pathologists for the presence and structure of ganglia.

Main results: 67 patients with ARM were identified, distal rectal specimen were obtained in 47. The median age at the time of surgery was 11 months (2days-59 months). A normal pattern of ganglia was present in 51% (24/47), 29.7% (14/47) had aganglionosis and 19.1% (9/47) were inconclusive due to insufficient material. None of the aganglionic specimen showed other histological findings of HD. Patients were followed up regularly in the outpatient colorectal clinic for a median of 87 months (42-117m). Only 6 experienced severe constipation (3 ganglionic, 2 no biopsy, 1 aganglionic), all of whom responded to a bowel management program, and none developed other manifestations of HD (abdominal distension, failure to thrive or enterocolitis) or required additional surgery.

Conclusions: Our results strongly suggest that the association of ARM and HD is extremely rare and the practice to search for ganglia in distal rectum of ARM patients should be discouraged to avoid potential misdiagnosis and overtreatment.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG23_PO / 14:10 – 14:15

HIRSCHSPRUNG'S DISEASE AND CONGENITAL CENTRAL HYPOVENTILATION SYNDROME IN ITALY: A NATIONWIDE REPRESENTATIVE SURVEY.

Silvia Ceccanti[1], Alessio Pini Prato[2], Riccardo Coletta[3], Maurizio Cheli[4], Giovanni Gaglione[5], Antonino Morabito[3], Gloria Pelizzo[6], Giovanna Riccipetitoni[7], Denis A. Cozzi[1]
[1]Sapienza University of Rome, Rome, Italy. [2]Azienda Ospedaliera Santi Antonio e Biagio e Cesare Arrigo, Alessandria, Italy. [3]Azienda Ospedaliero Universitaria Meyer, Firenze, Italy. [4]Ospedale Papa Giovanni XXIII, Bergamo, Italy. [5]AORN Santobono Pausilipon, Napoli, Italy. [6]Ospedale dei Bambini "Vittore Buzzi", Milano, Italy. [7]Ospedale San Matteo, Pavia, Italy

Abstract

Aim of the study: The rare co-occurrence of Hirschsprung's disease and congenital central hypoventilation syndrome, also known as Haddad syndrome (HS), remains poorly addressed in the literature. We conducted a nationwide survey to describe clinical features, management, and outcomes of this subset of patients.

Methods: We contacted the chiefs of the 44 Italian pediatric surgical services with facilities for neonatal surgery to inquiry about their HS experience. Participants responding affirmatively were invited to complete a structured questionnaire.

Main results: Of the nine centers responding affirmatively, 6 (67%) submitted the completed questionnaire, providing data for a total of 16 cases, including 2 siblings (2004-2022). M/F ratio was 10:6. Aganglionosis was diagnosed during the neonatal period in 13 (81%) patients and resulted proximal to the sigmoid colon in 12 (75%), including 6 total colonic and 2 total intestinal aganglionosis. Mortality rate was 25% (2 early and 2 late deaths). Overall, 12 (75%) patients underwent tracheostomy, and 2 (12%) developed a neural crest-derived tumor. Thirteen (81%) patients underwent definitive surgical management (transanal endorectal pull-through in 9, and Duhamel procedure in 4). Nine of these patients were aged >3 years, and 6 (67%) of them acknowledged ongoing defecation problems at median age of 10 years (range, 5 to 18). Bowel function outcomes did not correlate with the extent of aganglionosis.

Conclusions: This nationally representative survey shows that HS is usually associated with suboptimal outcomes. Further collaborative research is warranted to improve management of care in this challenging subset of patients.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG24_PO / 14:15 – 14:20

WHEN IS SIMPLE DIVERTICULECTOMY SAFE FOR MECKEL'S DIVERTICULUM?

Mehmet Can, Malik Ergin, Özkan Okur, Ayşe Demet Payza, Kamer Polatdemir, Akgün Oral
DR. BEHCET UZ PEDIATRIC DISEASES AND SURGERY TRAINING AND RESEARCH HOSPITAL, IZMIR, Turkey

Abstract

Aim of the Study: The increase in laparoscopic interventions in Meckel's Diverticulum (MD) makes simple diverticulectomy more common than segmental or wedge resection. We aimed to examine the growth of MD and the distribution of heterotopic mucosa (HM) with age to investigate the safety of simple diverticulectomy in terms of the risk of postoperative residual HM.

Methods: Demographic, clinical, intraoperative, pathological, and postoperative data of 117 patients aged 0-18 years diagnosed with MD in our clinic between 2008-2022 were analyzed.

Main Results: The average length and diameter of MD by age were; <1 year 2.20, 0.96cm; 1–5 years 3.60, 1.55cm; >5 years 3.8, 1.8cm. HM is observed in 39.3% of MDs and settles in the distal 1/3 in 21.7% (mean age 7.43), in the distal 2/3 in 45.6% (mean age 6.04), and more than distal 2/3 in 32.6% (mean age 5.03). There were no HM observed only in the proximal without distal. HM reached the ileodiverticuler border in only 3,4% (mean age 3.8), in the entire diverticulum was covered. Segmental resection was performed in 53.8%, wedge resection in 28.2%, and simple diverticulectomy in 18% of patients. Complication rates were 19%, 18.2%, and 4.8%, respectively, which were mainly adhesive intestinal obstruction.

Conclusions: MD grows with the intestines mainly in the first year of life. As it continues to grow, HM displaces distally. Therefore, HM contacts ileodiverticuler border in very few patients. This increases the safety of simple diverticulectomy as the age of operation increases.

Table

Age	**< 1 Year**	**1-5 Years**	**>5 Years**	**p<0.05**
Length(cm)	2.20 ±1.30	3.60 ±1.5	3.80 ±1.4	p=0.003
Diameter(cm)	0.96 ±0.76	1.55 ±0.6	1.78 ±0.5	p=0.013
HM site	**In distal 1/3**	**In distal 2/3**	**More than distal 2/3**	**p<0.05**
Mean age	7.43 ±4.69 n=10 (21.7%)	6.04±4.31 n=21(45,7%)	5.03 ±3.6 n=15(%32,6%)	p=0.017

LG25_PO / 14:20 – 14:25

BCL-2 IMMUNOHISTOCHEMISTRY AND EXPRESSION ANALYSIS OF GANGLIONIC AND AGANGLIONIC COLON SEGMENTS IN HIRSCHSPRUNG DISEASE AND THEIR RELATIONSHIP WITH HIRSCHSPRUNG ENTEROCOLITIS

Merve Dede[1], Irfan Kiristioglu[1], Gulsah Cecener[2], Nesrin Ugras[3]
[1]Uludag University Faculty of Medicine, Department of Pediatric Surgery, Bursa, Turkey. [2]Uludag University Faculty of Medicine, Department of Medical Biology, Bursa, Turkey. [3]Uludag University Faculty of Medicine, Department of Pathology, Bursa, Turkey

Abstract

Aim of the Study: Hirschsprung's disease (HD) is characterized by the congenital absence of ganglion cells in the gastrointestinal tract. The most feared complication is Hirschsprung enterocolitis (HEC). BCL-2 is a gene protein with antiapoptotic role has been shown that decreased expression plays a role in the etiology of HD. This study aims to explain the mechanisms of immunohistochemical, molecular evaluation and post-operative HEC etiology to elucidate the etiology of HD.

Methods: The colon segments diagnosed with rectosigmoid HD (n:20) and control (n:10) were analyzed retrospectively. 20 HD patients were equally divided into 10 patients in each group according to have enterocolitis or not. Ganglionic and aganglionic colon segments taken from all patients with HD were removed from the pathology archive and analyzed separately. All preparate were evaluated by immunohistochemical staining with BCL-2 antibodies. Subsequently, BCL-2 gene expression analyzes were performed in the same colonic segments as the genetic studies.

Main results: BCL-2 immunostaining results were negative in the aganglionic colon segments of the group diagnosed with HD. In the ganglionic group, the immunohistochemical staining results were less in the group undergoing HEC. In genetic analysis, compared to the normal group, BCL-2 expression was found to be significantly lower in both ganglionic and aganglionic tissues of the group with HD.

Conclusions: Immunohistochemical and advanced genetic studies with large patient series will illuminate the molecular basis of HD and HEC.

LG26_PO / 14:25 – 14:30

PRIMARY SEGMENTAL OMENTAL INFARCTION AS A RARE CAUSE OF ACUTE ABDOMINAL PAIN IN CHILDHOOD – CONSIDERATIONS ON 6 CASES

Narcis Flavius Tepeneu[1], Radu Emil Iacob[1,2], Ionut Adrian Dumitru[1,2], Marius Calin Popoiu[1,2]
[1]university Of Medicine And Pharmacy ''Victor Babes'', Timisoara, Romania. [2]emergency Children's Hospital ''Louis Turcanu'', Timisoara, Romania

Abstract

Aim of the study: Primary omental infarction (POI) has a low incidence worldwide. This condition is rarely considered in the differential diagnosis of acute abdominal pain in childhood.

Methods: We present a group of 6 patients with omental infarction. All patients presented with acute abdominal pain in the right abdomen. Two patients had a history of possible abdominal trauma about two to three weeks earlier. All patients were obese.

Main Results: All patients were treated by surgery (2 laparatomy, 4 laparoscopy) with resection of the affected omentum and tactical appendectomy. The pathology of the surgical specimens revealed primary omental infarction and an appendix without inflammation in all patients. Average length of stay in hospital was 3 days. One patient developed a wound infection which responded well to local treatment. A comparison to a similar group of 6 patients operated for histopathologically confirmed acute uncomplicated appendicitis showed no significant differences in terms of complications, hospital length of stay and final outcome. In the primary omental infarction group there were 2 patients which had computerized tomography scans of the abdomen. Also in the primary omental infarction group the patients had preoperative normal leucocytes and normal or slightly elevated C reactive protein (CRP), in the group with acute appendicitis all patients had elevated leucocytes and normal or elevated CRP.

Conclusions: There can be difficulties in establishing a preoperative diagnosis of primary omental infarction. Although rare, omental infarction should be considered in the differential diagnosis of acute abdomen, especially acute appendicitis, particularly in obese children.

13:30 - 14:30

Poster Presentation Session 22

Lower Gastrointestinal IV

(M2) Studio 1+2

Chair: Judith Lindert (GER)

Dailus Maicius (LIT)



LG27_PO / 13:30 – 13:35

MANAGEMENT OF MECONIUM ILEUS: A SINGLE CENTRE EXPERIENCE

Alessandra Preziosi[1], Martina Ichino[1], Paolo Grassi[1], Giorgio Fava[1], Anna Morandi[1], Ernesto Leva[1,2]
[1]Deparment of Pediatric Surgery, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy. [2]Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy

Abstract

Aim of the Study: To review the management of meconium ileus (MI) at our Center, focusing on the use of Kehr tube.

Methods: retrospective study on patients with MI treated in our Center from 2008 to 2022. Preoperative, operative, and post-operative data collected; complications defined according to Clavien-Dindo. Kehr group was compared with other treatments.

Main results: Seventeen patients were included: 14 (82%) had cystic fibrosis (CF), 10 (59%) had complex MI. Mean GA was 37±3 weeks, mean BW was 2772±653g. Contrast enema was used in 6 (35%) patients. It was successful in one case where hyperosmolar contrast was used. One enema was complicated by perforation. Sixteen (94%) patients required surgery. Kehr tube was placed in 6 patients (38%). Stoma was created in 4 (25%). Two (12%) patients underwent enterotomy and decompression. Anastomosis was performed in 3 (19%), and primary repair of perforation in one (6%). N-acetyl cysteine was administered orally in 8 (47%) patients, and with irrigations in all patients with stoma and 4/6 (67%) with Kehr. Mean time to initial feeding was 10±5 days, mean time to FEF was 30±22 days and mean time to stool passage was 10±7 days. 7 patients (44%) had complications requiring reintervention, one of which subsequently demised. Table 1 shows comparison of Kehr versus other treatments.

Conclusions: Despite the limits of our small series, Kehr tube resulted in effective treatment of the obstruction even in cases of complicated MI, with a reduced number of surgeries.

LG28_PO / 13:35 – 13:40

TRANSANAL AND LAPAROSCOPIC PULL-THROUGH IN RECTOSIGMOID HIRSCHSPRUNG'S DISEASE: COMPARISON OF THE TWO TECHNIQUES

Carla Ramirez-Amoros, Maria San Basilio, Alba Sanchez, Ane Andres, Leopoldo Martinez, Alejandra Vilanova
La Paz University Hospital, Madrid, Spain

Abstract

Aim of the Study: Surgical treatment of Hirschsprung's disease with rectosigmoid involvement (RHD) can be performed by purely transanal endorectal pull-though or laparoscopically assisted. There is no technique of choice at present for these patients. Our aim is to compare our experience with both techniques.

Methods: Retrospective study of patients with RHD who underwent transanal (TD) or laparoscopic (LD) pull-through between 2010-2022. Demographic characteristics, presence of stoma, postoperative complications and long-term evolution were analysed.

Main Results: We included 25 patients, 15 DT and 10 DL. There were no significant differences in age, weight, comorbidities, presence of stoma, or intraoperative complications. Postoperative complications were higher in the DT group: dehiscence 13% vs 0%, anastomotic bleeding 6% vs 0%, bowel obstruction 13% vs 10% and stricture 27% vs 10%; ($p>0.05$). Although without significant differences, we found a lower tendency to need irrigations (40% vs. 30%) and laxatives (40% vs. 30%) in the DL group, as well as a higher presence of spontaneous stool without soiling (60% vs. 80%). After a follow-up of 4.3 (1.95-7.55 years), 20% of patients in both groups suffered from enterocolitis (3 vs 2).

Conclusions: Although the results should be interpreted with caution, there appears to be a higher rate of immediate postoperative complications, less dependence on irrigations and less staining in patients undergoing DT compared to DL.

LG29_PO / 13:40 – 13:45

DETERMINATION OF PERINATAL RISK FACTORS IN THE PREVENTION OF SURGICAL NECROTIZING ENTEROCOLITIS

Medine Ezgi OCAL, Can Ihsan Oztorun, Ahmet Erturk, Sabri DEMIR, Emrah SENEL, Suleyman Arif BOSTANCI, Vildan Selin CAYHAN, Elif Emel Erten, Mujdem Nur AZILI
Ankara City Hospital, Ankara, Turkey

Abstract

Aim of the Study: Necrotizing enterocolitis (NEC), particularly when surgical therapy is required, remains a potentially fatal illness. The aim of the study was to determine the predisposing factors related to the development of NEC for preventing mortality and morbidity.

Methods: This is a retrospective study of neonates who were evaluated and treated with the diagnosis of NEC between August2019 and August2022.Demographic features, perinatal risk factors, associated major cardiac anomalies, the requirement of inotropes, breastfeeding/formula feeding, details of conservative follow-up and surgical interventions, mortality rate, presence of short bowel syndrome, stricture, and ileocecal valve were evaluated.

Main results: One hundred and seventy-three patients with the diagnosis of NEC were divided into medical and surgical groups. The surgical group consisted of 70 patients with a mortality rate of 47.1% and the medical group consisted of 103 patients with a mortality rate of 32.1%($p<0.05$).The requirement of inotropes in the first days of life (n=24/42) and low APGAR 5 score significantly increased the rate of surgical treatment (respectively; p=0.001, p=0.03).Breastfeeding significantly reduced the need for surgery (18/78; 23%; p=0.03). The requirement for bedside peritoneal drain placement or standard laparotomy, the probability of multiple surgeries, the rate of mortality, and the risk of short bowel syndrome (SBD) significantly increased with Modified Bell Classification increase ($p<0.05$). Resection of the ileocecal valve and terminal ileum was not associated with mortality ($p>0.05$).

Conclusions: The requirement of inotropes, low APGAR 5 score, and Stage 3 NEC were determined as risk factors for multiple surgical interventions, SBD, stricture, and mortality.

LG30_PO / 13:45 – 13:50

A NOTE ON THE HISTORY OF HIRSCHSPRUNG'S DISEASE, AND A 115-YEAR'S APOLOGY

Ayşenur Celayir[1], Handan Çetiner[2], Canan Aldırmaz Ağartan[3,4], Reyhan Günaydın[5]
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Abstract

In 1886, Harald Hirschsprung, presented - what he believed - to be a new and a rare condition at the Pediatric Congress of Berlin. This disease had been in fact first described by Fredericus Ruysch as an over-enlarged colon phenomenon in 1691, followed by a case of severe constipation published by Domenico Battini in 1800 and about another 20 similar cases that had been recorded in medical literature between 1825 and 1888.

In 1888, Hirschsprung - without knowing the previous reports - summarized his findings in a publication entitled "Constipation in Newborns as a Consequence of Dilatation and Hypertrophy of the Colon". Hirschsprung suggested that the condition was congenital, but he did not refer to a specific etiology or therapeutic option. While he noted a somewhat narrowed rectum in his first case, he did not fully appreciate its significance and failed to recognize that the cause of the megacolon was the nondilated distal bowel.

The intestinal aganglionosis as the pathological basis of this disease had been described for the first time by Karl Tittel in 1901. After 115 years - without considering this relevant discovery - the disease is still known as "Hirschsprung's disease".

Unlike in 1888 or 1916 - in today's age of digitization- the required information can be accessed more easily and accurately. A genuine reassessment and appreciation -based on the concrete contribution actually made to medical literature - is therefore possible.

Perhaps after 115 years now it is time to think about renaming the “Hirschsprung's disease” as “Tittel’s disease”.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG31_PO / 13:50 – 13:55

SEDATION OR NO SEDATION IN ILEOCOLIC INTUSSUSCEPTION; PROCEDURAL OUTCOMES AND PARENTS' SATISFACTION IN A RETROSPECTIVE MULTICENTER STUDY

Angélique Berthelot[1], Nora Larbi[2], C.E.J. Sloots[1], Marieke Witvliet[2], Claudia Keyzer-Dekker[1]
[1]Erasmus MC Sophia Childrens Hospital, Rotterdam, Netherlands. [2]Wilhemina's Children's Hospital, Utrecht, Netherlands

Abstract

Aim of the study: The desirability of procedural sedation during hydrostatic reduction for ileocolic intussusception in children is being debated. The aim of this study was to compare procedural outcomes with and without sedation, as well as parents' satisfaction.

Methods: In a retrospective multicenter study covering the period 2019-2021, we reviewed the chart of children with an ileocolic intussusception, treated in either a hospital that did not provide sedation (NS) or one that provided sedation (WS).
Primary outcomes were success rate, perforation, and recurrence after the reduction. A parental satisfaction questionnaire was sent to the parents. Response could be given on a 5-point Likert scale.

Main results: Data of 65 children were included, 42 in the NS group and 23 in the WS group. The two groups were comparable in demographics and clinical characteristics.
The successful reduction rates were 79% (NS) and 74% (WS) (P = 0.670). In either group one perforation occurred (P = 0.661). The recurrence rates were 14.3% (NS) and 17.4% (WS) (P = 0.740).
The questionnaire response rate was 48% in both groups. Three-quarters of parents in the NS group were satisfied (4) or very satisfied (5) with the procedure versus 80% in the WS group (P = 0.313).
Only in the NS group four parents scored satisfaction less then neutral (< 3). Ten parents in the NS group indicated that they would have preferred sedation for their child.

Conclusions: Procedural outcomes and parent satisfaction did not significantly differ between the group with or without sedation.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG32_PO / 13:55 – 14:00

PLACENTAL MEMBRANE TRANSPLANTATION: CAN IT BE A SOLUTION FOR TISSUE DEFECT REPAIR IN GIANT OMPHALOCELES

Olga Devrim Ayvaz[1], Ayşenur Celayir[1], Oya Demirci[2]
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Abstract

Aim of The Study: It was aimed to show the effect of covering the omphalocele sac with the placental membrane on the healing of giant omphaloceles requiring silo repair that cannot be repaired.

Methods: After the approval of the ethics committee of our hospital, this study was prospectively performed between October 2021-February 2023. All pregnant women diagnosed with prenatal giant omphalocele were informed that their own placenta could be used for omphalocele repair, if necessary, their consent was obtained.

Main Results: During 16-month, 4-omphalocele couldn't be closed primarily, their placental amniotic membranes were wrapped on omphalocele sacs-left for secondary healing. According to LM/US, the mean week of delivery was 38±1.15weeks(min:37weeks-max:39weeks) / 36.25±2.50weeks(min:33weeks-max39weeks). The mean birth weight was 2932.5±280.64g (min:2600g-max:3170g). ASD, PFO, ASD+VSD, PFO+VSD+PDA were determined. In one-male anterior anorectoplasti was also performed due to anal atresia, 3 were female (75%). The liver and intestines were in omphalocele sacs. The transverse diameter, vertical diameter, height of omphalocele sac were 14.50±3.8730cm (min:11cm, max:20cm), 14.25±2.63cm (min:12, max:18),15±1.19cm (min:13.5cm, max:16cm) respectively. All have unredictable liver adhered to the sac. After wrapped with plasental membrane, all healed with thight granulation tissue. The mean hospitalization day was 44.25±15.7days (min:32days, max:67days). The ventral herni diameter was 7.75±0.96cm(min:7cm-max:9cm). The mean follow-up duration was 8±5.6months(min:3months-max:16months).

Conclusion: In order to prevent sac rupture during secondary healing of giant omphaloceles, wrapping the maternal placental membrane in omphalocele sac is a cheap, effective, safe and successful treatment method.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG33_PO / 14:00 – 14:05

GASTROGRAFIN® ENEMA FOR DISIMPACTION IN NEONATAL MECONIUM ILEUS – SYSTEMATIC REVIEW

Jana Protasa[1], Zane Ābola[1], Amulya K. Saxena[1,2]
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Abstract

Aim of the Study: This systematic review evaluated the reported outcomes of Gastrografin® (Schering AG, Berlin, Germany) enema use in newborns with meconium ileus.

Methods: The literature was reviewed on Pubmed and Scopus databases with search terms "meconium ileus" and "Gastrografin" in the last 30 years and analyzed according to the PRISMA 2020 criteria.

Main results: The search from 1992-2022 identified 36 articles of which 9 met the inclusion criteria and identified 662 neonates for analysis. Data was analyzed as follows: Gastrografin concentration was specified in 3 articles and 20-25% (n=1), 33% (n=1) and 50% (n=1); no data in n=6. Application regime specified 1-7 time daily: (a) 1 article (n=42) using 33% specified 2 applications with 71% success, (b) 2 articles (n=509) with 68% and 65% success using 4(-7) times daily (concentration not specified) and (c) 2 articles with 41% and 40% success (n=17, 50% conc, single; n=25, 20-25%, twice) (d) 4 articles n=49 conc. not specified had success in 55%, 53%, 40% and 26%. Technique: No data; 3 articles possible fluoroscopic guidance. Cumulative success: 419/662 (63.3%; range 26%-71%) neonates. Complication rates: 0-14% (mean 5.9%), reported in 7 of the 9 articles; no data in 2 articles. There were 23 complications: intestinal perforations (n=22) and cardiovascular compromise (n=1).

Conclusions: Gastrografin for meconium ileus management does not have standardized reporting in terms of concentration, number of attempts and application regimes. Complications account for 5.9% cases with intestinal perforation predominance. Published reports indicate success of >60% with Gastrografin in meconium ileus neonates.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG34_PO / 14:05-14:10

THE EFFECT OF THE GANGLIONIC SEGMENT INFLAMATORY RESPONSE TO POSTOPERATIVE ENTEROCOLITIS IN HIRSCHSPRUNG'S DISEASE

Yalim Benibol, Ayse Mine Onenerk, Ali Ekber Hakalmaz, Nil Comunoglu, Gonca Topuzlu Tekant, Rahsan Ozcan
Istanbul University-Cerrahpasa, Istanbul, Turkey

Abstract

Aim of the Study: In our study, we aimed to understand in Hirschsprung's disease the cause of enterocolitis in the postoperative period by examining the state of being affected by inflammatory reactions in the preoperative period.

Methods: A total of 30 cases (M:27,F:3) who were operated on with the transanal endorectal pull-through method due to Hirschsprung's disease between 2012-2022 were included in the study. The cases were divided into three groups. Group 1: Cases with preoperative and postoperative enterocolitis, Group 2: Cases with postoperative enterocolitis, Group 3: Cases with preoperative enterocolitis. The control group consisted of patients who did not have enterocolitis. The intestinal segments removed during the surgery were evaluated for IL-1ß, TNF-α, and IL-6.

Main Results: In the compression of enterocolitis groups and control group average intensity of IL-ß staining percentages in lamina propria (LP) were 52,2±23,8% to 17,8±25,4% and in epithelium 50±23,6% to 22,1±24,6%. Those for TNF-α score of LP staining were 65,4±24% to 47,1±24,2%. It has been found that increase of IL-1ß intensity in LP(p:0.002) and epithelium(p:0.014) of ganglion positive side are related to enterocolitis. However, a similar relationship for TNF-α was found in only transitional zone LP(p:0.01).

Conclusions: It has been shown that endogenous TNF-α secretion and IL-1β-related inflammation play a role in the etiology of Hirschsprung-associated enterocolitis. It has been thought that Hirschsprung-associated enterocolitis is not just an infective disease but an underlying autoinflammatory process.

LG35_PO / 14:10 – 14:15

OBSTRUCTED SYMPTOMS FOLLOWING HIRSCHSPRUNG'S DISEASE, EXPERIENCE WITH MORE THAN 200 CASES

Ahmed Radwan, Mohammed Gadallah, Nader Gurgis, Mohammed Bersy
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Abstract

Aim of the Study: obstructed symptoms (OS) following surgery for Hirschsprung's disease (HD) occur in 20-30% of cases. Symptoms occur usually in the form of constipation, abdominal distension, episodic vomiting, and poor feeding tolerance. Management of OS after HD surgeries is variable. To review cases referred with OD following HD surgery, and to detect management procedure done and their effectiveness.

Methods: This was a retrospective study performed over a 10 years' period (2010-2020) on cases diagnosed with OS following HD surgery. All patients below 18 years were included if they have one or more of the following symptoms after HD surgery: abdominal distension (bloating), constipation (defined by delay in stool passage more than 48 hours), episodic vomiting (not explained by associated gastroenteritis or any systemic cause), and poor feeding tolerance (proved by no weight gain over the past 6 months).

Main Results: 218 cases were included, with a mean age at the HD surgery 5.03±9.6 months. The procedures done for included patients were: Myotomy 2 patients, Swenson 53 patients, Soave 46 patients, Duhamel in 34, Svenson 18 patients, patients with unknown procedure in 56 patients. The procedures done to relief symptoms for those patients according to the algorithm were: Botox intra-anal sphincteric injection (218 patients), Myotomy (36 patients), Redo-HD surgery (11 patients: 8 Swenson, 3 Duhamel), temporally enetrostomy (5 patients), permanent enterostomy (2 patients).

Conclusions: Relief of obstructive symptoms after Hirschsprung's disease surgeries can occur with the followed algorithm.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG36_PO / 14:15 – 14:20

IDENTIFYING CLINICAL CHARACTERISTICS OF UNEXPECTED GASTROINTESTINAL PERFORATION IN NEONATES – A RETROSPECTIVE COHORT STUDY OF 48 PATIENTS.

Adinda Pijpers[1], Laurens Eeftinck Schattenkerk[1], Sylvie Vanhamel[1], Ernest van Heurn[1], Gijsbert Musters[2], Ramon Gorter[1], Joep Derikx[1]
[1]Emma Children's Hospital Amsterdam UMC, location University of Amsterdam, Amsterdam, Netherlands. [2]Amsterdam UMC, location University of Amsterdam, Amsterdam, Netherlands

Abstract

Aim of the Study: Gastrointestinal perforations (GIP) in neonates are a surgical emergency that can have significant morbidity and mortality. It is challenging to determine where the perforation is located in advance. Predicting the location of the perforation will aid the surgeon to optimize the surgical strategy as colonic perforations are more challenging than small bowel perforations with more underlying diseases. Therefore, the aim of this study is to identify pre- and postoperative patient characteristics that might help early differentiating between small bowel and colon perforations in neonates.

Methods: A retrospective cohort study was performed in neonates aged 0-6 months with GIP without present diagnosis (eg. NEC) between 1996 and 2022. Outcomes were pre- and postoperative patient specific characteristics between small bowel and colon perforations. Differences were analyzed using chi-square test.

Main results: 25 of 48 neonates presented with small bowel perforation, 20 of 48 colon, 3 of 48 stomach. Prematurity (p=0.001) and extreme low birth weight (p=0.001) were associated with small bowel perforations and associated anomalies (eg. Hirschsprung disease, cystic fibrosis) (p=0.001) with colon perforations. Gender (p=0.366), birth route (p=0.090) and sepsis (p=0.201) showed no significant differences.

Conclusions: Neonates with extreme low birthweight and prematurity have more risk to have small bowel perforation. In case of colon perforation, there is a higher risk for associated anomalies and additional screening (for Hirschsprung disease and cystic fibrosis) should be considered.

LG37_PO / 14:20 – 14:25

TRANSITION ZONE LENGTH IN HIRSCHPRUNG'S DISEASE: HOW MUCH TO RESECT? - A SYSTEMATIC REVIEW

Christine Lam, Muhammad Choudhry
Chelsea Children's Hospital, Chelsea and Westminster NHS Foundation Trust, London, United Kingdom

Abstract

Aim of the Study: Surgical management of Hirschsprung's disease (HD) involves resection of aganglionic bowel and pullthrough procedure, requiring identification and resection of the 'Transition Zone' (TZ). This review will conglomerate reported TZ length in the literature and whether co-morbidities affect TZ length.

Methods: A review of the literature was performed across Medline, Embase, Pubmed and Cochrane Library. Searches were performed with the terms 'Transition Zone' and 'Hirschprung's disease' between 1970 and 2022. Studies were included if they defined TZ and recorded TZ length.

Main results: 236 abstracts were identified. Nine studies met the inclusion criteria, encompassing 259 patients. Six of the studies found that the median/mean length of TZ was <3cm. One reported a median of <5cm. While the remaining two had a median of 7cm and 8cm. All but two of the studies reported a range of TZ length up to >5cm. (Table) One study compared TZ length in Trisomy 21 patients which showed no increase in TZ length compared to non-Trisomy 21 patients.

Conclusions: Most surgeons routinely excise 3-5cm of TZ. This literature review highlights that within published literature, there is a wide range of TZ length that exceeds current excision lengths. As residual aganglionosis represents a large proportion of HD patients with persisting bowel symptoms, recognising the variability in TZ length may prevent residual aganglionosis. Limitations include heterogeneity due to differences in TZ definition. Further work is required on a larger scale to fully appreciate the wide range of TZ length.

LG38_PO / 14:25 – 14:30

VARIATIONS IN EPITHELIAL LINING OF DUPLICATION CYSTS CANNOT BE EXPLAINED BY KNOWN THEORIES

Servet Melike Akıncı[1], Özlem Boybeyi[1], Diclehan Orhan[2], Tutku Soyer[1]
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Abstract

Aim of the Study: Duplication cysts (DC) are found in any part of the gastrointestinal tract from the mouth to anus. Although DC usually have similar epithelium with the adjacent organ, respiratory epithelium in the enteric DC is rarely reported. A retrospective study was performed to evaluate the variations in the epithelial lining of DC and its impact on clinical findings.

Methods: Patients operated with DC between 2012-2022 were enrolled. Demographic features, localization, clinical findings, treatment options and histopathological findings of DC were evaluated.

Main results: Twenty-five cases were included. The mean age was 3.7 years (16 days –14 years), male:female was 15:10. The localizations of DC were ileum (n=11), duodenum (n=5), stomach (n=4), jejunum (n=2), colon (n=2), esophagus (n=2) and rectum (n=1). Three patients had more than one DC in different localizations. Most common presentation was abdominal pain (36%). Intestinal (48%) and gastric (40%) epithelia were the most common finding. Four (16%) of the cases had respiratory epithelium; two of them were in foregut, one in intestinal and one in rectal duplications. 24% of patients had associated anomalies. In 9 patients, surgical treatment was cysts excision, whereas 8 patients had bowel resection with cysts excision. One patient had endoscopic unroofing.

Conclusions: DC shows wide variation in epithelial lining. Respiratory epithelium may exist not only in foregut duplications but also in midgut and hindgut ones. Although presence of respiratory epithelium did not have any impact on clinical findings, none of the previous theories explain the presence of respiratory epithelium different from foregut duplications.

14:30 - 16:30

Scientific Session XV

Lower Gastrointestinal

(M1) Regency 1

Chair: Alejandra Vilanova (EPS)

Tomas Wester (SWE)

Hilmican Ulman (TUR) TEPS



LG01_LO / 14:30 – 14:40

IBD-LIKE LESIONS IN TOTAL COLONIC AGANGLIONOSIS: AN UNDERESTIMATED ENTITY

Marta Erculiani[1], Francesca Poluzzi[1,2], Giulia Mottadelli[1,2], Lorenzo Giacometti[3], Maria Grazia Faticato[4,1], Giovanni Montobbio[5], Enrico Felici[6], Alessio Pini Prato[1]
[1]Pediatric Surgery Unit, The Children Hospital, Azienda Ospedaliera SS. Antonio e Biagio e Cesare Arrigo, Alessandria, Italy. [2]Pediatric Surgery Unit, Department of Women's and Children's Health, University of Padua, Padua, Italy. [3]Pathology Unit, Azienda Ospedaliera SS. Antonio e Biagio e Cesare Arrigo, Alessandria, Italy. [4]Pediatric Surgery Uniti, IRCCS Istituto Giannina Gaslini, Genova, Italy. [5]Pediatric Intensive Care Unit, The Children Hospital, Azienda Ospedaliera SS. Antonio e Biagio e Cesare Arrigo, Alessandria, Italy. [6]Pediatrics Unit, The Children Hospital, Azienda Ospedaliera SS. Antonio e Biagio e Cesare Arrigo, Alessandria, Italy

Abstract

Aim of the study: This study is aimed at providing an epidemiological overview on clinical features, genetics, histology, and metagenomics of inflammatory bowel disease (IBD)-like intestinal lesions that can develop even years after reconstructive surgery in patients with Total Colonic Aganglionosis (TCSA).

Methods: This was a cross-sectional observational study. All TCSA patients performed fecal occult blood test (FOBT) and calprotectin (FC). A clinical questionnaire was submitted to all patients and faecal metagenomics on both patients and caregivers. Data concerning demographics, clinical features, and molecular genetics were collected. In case of positivity of one or both FOBT and FC, transanal ileoscopy with biopsies was performed.

Main Results: Out of a series of 62 TCSA patients, 48 were eligible and 38 accepted to be included. Nineteen tested positive for one or both faecal tests and underwent retrograde ileoscopy. Thirteen out of 19 patients (13/38 = 34.2%) presented IBD-like lesions, after a median of 10 (3.5 - 21.5) years from surgery. FC sensibility was 84.6%. No statistically significant differences regarding phenotype and genotype were observed comparing patients with and without lesions, except for quality-of-life, impaired in the former (p=0,04). Faecal microbiome of patients with IBD-like lesions was characterized by an overabundance of Proteobacteria.

Conclusions: More than one third of TCSA patients develops IBD-like lesions in the long term. Given FC sensibility, we suggest performing retrograde ileoscopy in all TCSA patients for 3.5 years postoperatively to rule out the presence of IBD-like lesions. Further studies will address therapeutic options for this troublesome issue.

LG02_LO / 14:40 – 14:50

PREGNANCY COMPLICATIONS, DELIVERY MODE AND DELIVERY COMPLICATIONS IN FEMALES WITH HIRSCHSPRUNG'S DISEASE

Cornelia Byström[1], Lisa Örtqvist[1,2], Anna Gunnarsdóttir[1,2], Olof Stephansson[3,4], Tomas Wester[1,2], Anna Löf Granström[1,2]
[1]Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden. [2]Department of Pediatric Surgery, Karolinska University Hospital, Stockholm, Sweden. [3]Department of Women's Health, Karolinska University Hospital, Stockholm, Sweden. [4]Department of Medicine, Karolinska Institutet, Stockholm, Sweden

Abstract

Aim of the Study: To assess pregnancy complications, delivery mode and delivery complications in females with Hirschsprung's disease (HSCR).

Methods: This nationwide population-based cohort study, included all females with HSCR registered in the Swedish National Patient Register between 1964 and 2004 who had given birth to at least one child. Age- and gender-matched controls were randomly selected by Statistics Sweden. Outcome data were retrieved from the Medical Birth Register on each woman's first pregnancy. Exposure was HSCR, primary outcome was delivery mode, secondary outcomes were pregnancy and delivery complications.

Main results: The study cohort comprised 39 HSCR patients and 270 controls. Age at birth of first child was 28.2 ± 5.6 years for females with HSCR vs 26.4±4.8 years for controls, p=0.034. Median pregnancy length was 40.4 weeks (IQR 39.4, 41.3) for females with HSCR vs. 40.1 weeks (IQR 39.1, 41.0) for controls. Fourteen (35.9%) of the females with HSCR underwent caesarian section compared to 40 (14.8%) controls (p=0.006). The proportion of emergency caesarian sections was comparable between the groups (8 (66.7%) vs 24 (70.7%), p=1.000, see table 1. Tears occurred in 15 females with HSCR (62.5%) vs. 133 controls (62.7%), p=1.000, out of which 2 patients with HSCR (13.3%) had a sphincter tear.

Conclusions: Females with HSCR were more likely to undergo caesarian section than controls. Pregnancy length and prevalence of preeclampsia and tears did not differ between the groups.

LG03_LO / 14:50 – 15:00

ARGON INHALATION: A NOVEL TREATMENT FOR NEONATAL SEPSIS

Felicia Balsamo, Mina Yeganeh, Andrea Zito, George Biouss, Carol Lee, Agostino Pierro
Hospital for Sick Children, Toronto, Canada

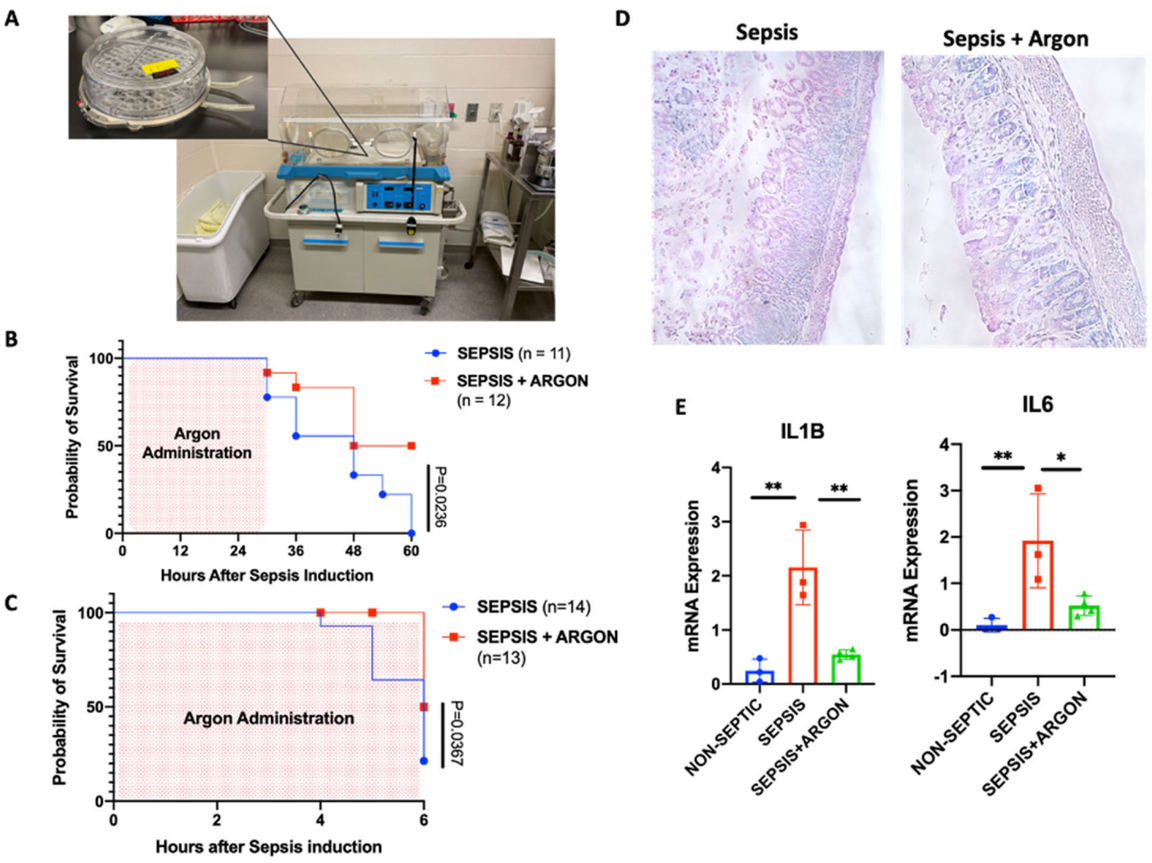
Abstract

Aim of the Study: Sepsis is a leading cause of mortality in neonates. Argon is an emerging interest in the field of noble gas therapy. Neonates with severe sepsis are commonly mechanically ventilated creating an opportunity for introducing a new inhalation therapy. We aimed to investigate argon inhalation as a novel experimental therapy in neonatal sepsis.

Methods: Sepsis was established in pup mice by LPS intraperitoneal injection [20mg/kg] on postnatal day 9. Study 1: Argon was administered by inhalation (70% argon, 30% oxygen) into a chamber housing the pup mice (n=12) for 30 hours. Sepsis controls were housed in the chamber containing room air (n=11). Study 2: To avoid hypothermia, septic mice were receiving argon (n=13) and septic controls (n=14) were maintained in the chamber positioned in an incubator at 35°C for 6 hours (Fig.A). Breastfed pups served as normal controls (n=3). Colon, a target organ in neonatal sepsis, was harvested from survivors.

Main results: Study 1: Argon inhalation significantly reduced sepsis mortality (Fig.B). Study 2: At 35°C temperature, there was 50% survival in argon sepsis compared to 20% in control sepsis (Fig.C). In the colon, inflammatory cell infiltration (Fig.D) and inflammatory cytokines IL1B and IL6 (Fig.E), were significantly decreased in argon sepsis compared to sepsis control (level similar to non-septic mice).

Conclusions: Argon inhalation is a novel treatment for neonatal sepsis, it reduces mortality and counteracts the systemic inflammatory response in the intestine. Argon inhalation can be translated into humans as septic neonates commonly receive mechanical ventilation.


A
B
Probability of Survival
Argon Administration
SEPSIS (n = 11)
SEPSIS + ARGON (n = 12)
P=0.0236
Hours After Sepsis Induction
C
Probability of Survival
Argon Administration
SEPSIS (n=14)
SEPSIS + ARGON (n=13)
P=0.0367
Hours after Sepsis induction
D
Sepsis
Sepsis + Argon
E
IL1B
IL6
mRNA Expression
NON-SEPTIC
SEPSIS
SEPSIS+ARGON

LG04_SO / 15:00 – 15:05

CAN WE PREDICT SURGICAL NECROTIZING ENTEROCOLITIS BY USING LABORATORY MARKERS?

Senem Alkan Ozdemir[1], Ezgi Su Aslan[2], Akgün Oral[3], Şebnem Çalkavur[4], Tülin Gökmen Yıldırım[1]
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Abstract

Aim of the Study: We aimed to investigate the development of surgical NEC by examining the neutrophil lymphocyte ratio and acute phase reactants. It was aimed to evaluate the prognostic value between surgical stage and short term morbidity.

Methods: This observational study was conducted between 7 years period. Preterm infants who developed signs of NEC during their NICU hospitalisation were included. The relationship between the leukocyte, neutrophil to lymphocyte count, platelet count, mean platelet volume, platelet mass index and acute phase markers of the infants with NEC stages at 2 and above were investigated.

Main results: During the study period 147 infants were included. 100 infants had stage 2 NEC and 47 infants had surgical NEC. The mean gestational week of the infants included in the trial was 29.1±3.0 (min 23, max 35) weeks. The mean weight of infants was 1284.3±553 grams and 69% of them were in male gender. WBC levels did not differ between the groups. Platelet and NLR were statistically different between the groups ($p<0,05$).Platelet mass index was also statistically higher in surgical NEC group. CRP, sodium, albumin, potasium levels were also statistically different between the groups. Prediction of surgical NEC was evaluated in logististic regression analysis. Platelet levels, potasium, sodium and lactate were significant in predicting surgical NEC.

Conclusions: This is the first study in the literature investigating the prediction of surgical NEC with laboratory parameters. Surgical NEC may be more common especially in the follow-up infants with low sodium value and high potasium and lactate levels. This kind of infants may be follow up more closely.

LG05_SO / 15:05 – 15:10

STEM CELL ACTIVITY IN THE INTESTINAL EPITHELIUM DURING NECROTIZING ENTEROCOLITIS

Andrea Zito, Bo Li, Carol Lee, Mina Yeganeh, George Biouss, Felicia Balsamo, Niloofar Ganji, Agostino Pierro
The Hospital for Sick Children, Toronto, Canada

Abstract

Aim of the Study: Necrotizing enterocolitis (NEC) is associated with impaired intestinal regeneration due to reduced LGR5+ intestinal stem cell activity. The stem cell population in the intestine includes a quiescent subpopulation (Clu). Upon injury, Lgr5 stem cells are regenerated by Clu stem cells which in turn are activated through the Yes-associated protein 1 (YAP) signalling. Additionally, YAP is inhibited upon its phosphorylation (p-Yap). In this study, we investigated Clu stem cell activity and YAP signalling as precursors of intestinal regeneration in NEC.

Methods: Two groups of C57BL/6 mice were studied (n=7): (i) breast-fed mice as control; (ii) experimental NEC mice. NEC was induced between post-natal days P5 and P9 by (i) gavage feeding of hyperosmolar formula four-times a day; (ii) 10 minutes hypoxia prior to feeding; and (iii) lipopolysaccharide administration on P6 and P7. Clu-GFP mice (n=7) were also studied and exposed to same conditions to evaluate Clu stem cells. Mice were sacrificed at P9 and the terminal ileum was harvested for analysis.

Main results: In NEC compared to control, there was reduced expression of both Clu (Fig. A) and YAP as indicated by immunostaining (Fig. B) and protein analysis (Fig. C). Interestingly, p-YAP relative to total YAP was increased in NEC compared to control (Fig. D).

Conclusions: During NEC development, there is inhibition of YAP which results in decreased Clu expression. YAP can be an important regulator of Lgr5 stem cell maintenance and intestinal regeneration. YAP has the potential to be a novel therapeutic target for infants with NEC.

LG06_SO / 15:10 – 15:15

COMPARISON OF SURGICAL OUTCOME BETWEEN DUHAMEL AND TRANSANAL ENDORECTAL PULLTHROUGH PROCEDURE IN HIRSCHSPRUNG'S DISEASE

Juthamas Jenyongsak, Jiraporn Khorana
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Abstract

Aim of the Study: This study aimed to compare the outcome between Duhamel's and the Transanal endorectal pull-through (TERPT) procedure in Hirschsprung's disease.

Methods: Hirschsprung's patients who scheduled for Duhamel's operation or Transanal endorectal pull-through (TERPT) from January 2006 to December 2022 were enrolled in the study. The long-term outcomes were composited of obstructive symptoms, enterocolitis, and fecal soiling. Good outcome defined as none of any and poor outcome defined as at least one of any. The secondary outcomes were operative time and estimated blood loss. Propensity score was used for balancing the intention to choose between Duhamel's and TERPT. Multivariable analysis was done by logistic regression reported as odds ratio (OR).

Main results: A total of 193 patients were divided into the Duhamel's operation (39 patients;21%) and the TERPT operation (154 patients;79%). There were no statistically significant differences between obstructive symptoms (41%VS27% p=0.12), enterocolitis (31%VS22% p=0.29) and fecal soiling (23%VS16% p=0.35) among Duhamel's and TERPT group. The multivariable analysis with inverse probability treatment weighting propensity score found that TERPT had better outcome than Duhamel's but failed to show statistically significant (OR=2.1(0.4-11.2) p=0.39) The mean operative time (3.3±0.9 VS 2.0±0.9 hours, p<0.001) and the median estimated blood loss (20(15-50) VS 5(3-10) milliliters, p<0.001) were significantly higher in the Duhamel's group.

Conclusions: There were similar long-term outcome among both operative groups, but the Duhamel's procedure was associated with longer operative time, higher estimated blood loss.

LG07_SO / 15:15 – 15:20

AN UNEXPECTED DIAGNOSIS OF THE RECTAL POLYP: PERIVASCULAR EPITHELOID CELL TUMOR (PECOMA)

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Department of Pediatric Surgery, University of Health Sciences Turkey, Hamidiye Faculty of Medicine, Istanbul Zeynep Kamil Women and Children's Diseases Health Training and Research Center, Istanbul, Turkey

Abstract

Aim of the Study: Perivascular epithelioid cell tumour (PEComa) is an extremely rare mesenchymal tumor that arise from perivascular epitheliod cells. Here is presented a child with a rectal PEComa, that have been a few report in the literature.

Case description: A 10-year-old male patient was admitted to the Pediatric Gastroenterology department of our hospital with the complaint of recurrent bloody stools for 4 months and the lesion coming out of the anus with straining. On the anorectal digital examination, a polypoid firm mass was identified on the lateral wall of the rectum. Colonoscopy revealed a large-diameter and overlying hemorrhagic and inflammatory polyp in the 7th cm of the rectum. Otherwise, colonoscopy was normal. In the lithotomy position, 7th cm of the anal verge and location at 3 o'clock, a thick-stemmed polyp with a diameter of 2.5*2cm was excised surgically. In pathological and immunohistochemical examination, the polipoid mass was diagnosed as PEComa and the surgical margin was tumor-free. Abdomino-pelvic MRI for local invasion investigation was normal. The patient is referred to the Pediatric Oncology and Genetics Departments and is being followed up for possible metastasis and genetic investigation.

Conclusions: PEComas have a behavioral spectrum from benign to malignant. Because of unexpected occurrence in the rectum, PEComa may be misdiagnosed in this region. Histopathological morphology, immunophenotype, and molecular identification is necessary for diagnosis, and immunohistochemistry can rule out many of morphologically similar tumors to differential diagnosis. Complete surgical resection, multidisciplinary approach and long-term follow-up are necessary.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG08_SO / 15:20 – 15:25

FRENCH EXPERIENCE OF SERIAL TRANSVERSE ENTEROPLASTY (STEP) FOR SHORT BOWEL SYNDROME (SBS).

Claire Dagorno[1], Louise Montalva[1], Carmen Capito[2], Frederic Lavrand[3], Audrey Guinot[4], Stephan De Napoli[4], Remi Dubois[5], Thomas Gelas[5], Jessica Pinol[6], Emmanuelle Dugelay[1], Christophe Chardot[1], Arnaud Bonnard[1]
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Abstract

Aim of the Study: Short Bowel Syndrome (SBS) is a cause of pediatric intestinal failure. Surgical management by Serial Transverse Enteroplasty (STEP) is feasible, but few data report long-term results. The objective was to report long-term outcomes of STEP for SBS.

Methods: We performed a multicenter national retrospective study reviewing all cases of STEP over 20 years in six centers. Data analysis included birth, etiology, surgical procedures, enteral or parenteral nutrition (PN), complications, and current follow-up (feeding, digestive symptoms, growth).

Main Results: 36 patients were included: 14 gastroschisis (38,8%), 10 intestinal atresia (27,7%), 8 necrotizing enterocolitis (22,2%), 2 midgut volvulus (5,5%), 2 near-pan intestinal Hirschsprung disease (5,5%). The average follow-up was 10.5(±5,6) years. Median age at first STEP was 10,8 years [4,5; 63,8], and mean weight was 11,6 kg (±9.4). 10 children had a second STEP (27,7%) and 1 a third (2,7%). Two children had an intestinal transplantation (5,5%). 19 children still require PN (52,7%), with a median PN/DER ratio of 86% [69,5; 122,5]. Among 33 (91,2%) children who had PN before surgery, 14 (42,4%) were weaned from PN and 2 still have enteral nutrition (6%). 9 received Glucagon-like-Peptide-2 (GLP-2) (25%), during 2,1±1,3 years. The length gain was +50% (±59%), with 21cm (±15). Regarding follow-up, 14 children (38,8%) have clinical abdominal bloating, 23 radiological (63,8%), and 19 have loose stools (52,7%).

Conclusions: The STEP technique remains an option, allowing sometimes a weaning from parenteral nutrition, and an improvement of clinical symptoms. Further studies could investigate the combination of STEP with GLP-2.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG09_SO / 15:25 – 15:30

FEASIBILITY AND ACCURACY OF THE EXPERT FETAL ANOMALY SCAN IN PRENATAL DIAGNOSIS OF ANORECTAL MALFORMATIONS

D. Huijgen, H.P. Versteegh, N.C.J. Peters, S. Galjaard, C.E.J. Sloots, R.M.H. Wijnen
Erasmus University Medical Center, Rotterdam, Netherlands

Abstract

Aim of the study: This study aimed to assess the diagnostic value of the expert fetal anomaly scan (eFAS) in the prenatal diagnosis of anorectal malformations (ARM).

Methods: All patients who were surgically treated for ARM in our institution from January 2014 to December 2021 were reviewed. When available, the eFAS images were assessed to evaluate the fetal anus by searching for hyperechoic anal mucosa surrounded by hypoechoic anal sphincter ('target sign'). Furthermore, the presence of bowel anomalies, genital anomalies, and VACTERL associated anomalies were assessed and correlated to postnatal signs. The study protocol was approved by the institutional Medical Ethical Committee.

Main results: 108 patients were analyzed. Thirty mothers underwent an eFAS, which was suspicious of a bowel anomaly in 9 patients (30.0%), and a genital anomaly in 5 patients (16.7%). In 14 patients (46.7%), one or more VACTERL associated anomalies were suspected on eFAS, representing 24 anomalies in total, of which 18 were confirmed postnatally. Furthermore, 16 confirmed VACTERL associated anomalies were not visualized on eFAS. The target sign was assessed in 19 patients, of which 14 patients (73.7%) had an abnormal or absent target sign. In patients with a complex ARM the target sign was absent or abnormal in even 88.9%.

Conclusions: eFAS with evaluation of the fetal anus helps early detection of ARM and could effectuate prenatal counseling of caregivers and optimize perinatal care. Therefore, it should be a standard item of the eFAS.

LG10_SO / 15:30 – 15:35

MULLERIAN ANOMALIES IN POSTPUBERTAL PATIENTS WITH ANORECTAL MALFORMATIONS: LONG-TERM FOLLOW-UP AND COMPLICATIONS.

Isabel Bada-Bosch, María Fanjul, Agustín Del Cañizo, Laura Pérez-Egido, Javier Ordoñez, Samuel Dan Israel, Julio Cerdá, Esther Molina, Juan Carlos de Agustin
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Abstract

Aim of the Study: Our objective is to evaluate postpubertal women with mullerian anomalies operated for anorectal malformations (ARM).

Methods: Retrospective study including patients operated for ARM in our centre, evaluated by Magnetic resonance imaging (MRI), that present an associated genital anomaly (GA) and older than 12 years old.

Main results: Twenty-five patients with a mean age of 20 years were included in the study. The most frequent ARM is cloaca (72%). All patients have other associated anomalies. The most frequent GA are uterine (96%) (didelphys uterus (52%)), followed by vaginal (64%) (vaginal duplicity (40%)). In addition to MAR correction, 72% required some type of genital surgery, the most frequent being dilatation/introitoplasty for vaginal stenosis (7 patients, 54 procedures) and removal of vaginal septum (12 patients). Regarding sexual and reproductive function, 73.9% have menstrual cycles (89.5% of the patients with uterus); mean age at menarche was 12.5 years. Menstrual problems are present in 37.5% and 10% have endometriosis. Thirty-eight per cent of the patients have sexual relationships, with an age of onset of 19.17 years, 25% reported dyspareunia. None of the patients had pregnancies.

Conclusions: Long-term multidisciplinary follow-up of patients with ARM is essential, including screening and follow-up of GA. We highlight the importance of a transition to gynaecology services due to the possible impact on quality of life, gynaecological, sexual, and reproductive health.

LG11_SO / 15:35 – 15:40

THE QUALITY LIFE OF ANORECTAL MALFORMATION PATIENTS: RESULTS OF TERTIARY PEDIATRIC COLORECTAL CENTER

Elif Emel Erten[1], Can İhsan Öztorun[2], Süleyman Arif Bostanci[1], Vildan Selin Çayhan[1], Ahmet Ertürk[2], Hikmetullah Siddikyar[1], Sabri Demir[3], Müjdem Nur Azili[2], Emrah Senel[2]
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Abstract

Aim of the Study: In this study, we aimed to reveal the factors affecting bowel functions and quality of life in patients who were operated for anorectal malformation.

Methods: Seventy-eight patients aged over 8 years, who underwent definitive surgery for ARM, and followed up in our clinic between 1985-2014, were evaluated. The Krickenbeck score and the pediatric general quality of life scale (PedsQL), was administered to the patients.

Main Results: The mean age was 17.3±5.5 years and 44 (56,4 %) were male. Rectobulbar and rectoprostatic fistula were most common in boys (77.7%), and rectovestibular fistulas were most common in girls (76.4%). Anoplasty was performed in 22 patients with atresia with perineal fistula, fistulotomy and mucosectomy was performed in three patients with H-type fistula and PSARP was performed in the other 23 patients. According to Krickenberg scoring, 93,5% of patients had voluntary bowel movements. There was no soiling in 56 (%71,7) patients with voluntary bowel movements. The mean pedQL score of all patients in the study was 78.6. The urinary continent was present in 93 % of the patients. The mean PedQL score of the patients who underwent CIC (68.2) and the patients with VUR (70.4) was significantly lower than the mean PedQL score of the patients without urinary system pathology (73.8) ($p<0.05$).

Conclusions: ARM patients had a high rate of fecal and urinary continence and a socially acceptable quality of life in the long-term results. Fecal continence, serious urinary system pathologies, sacral and spinal cord anomalies adversely affected the quality of life.

LG12_SO / 15:40 – 15:45

INTESTINAL EPITHELIAL PROLIFERATION IS PROMOTED BY REMOTE ISCHEMIC CONDITIONING

Carol Lee, Bo Li, Niloofar Ganji, Sinobol Chusilp, Dorothy Lee, Mina Yeganeh, Felicia Balsamo, Agostino Pierro
Hospital for Sick Children, Toronto, Canada

Abstract

Aim of the Study: Remote ischemic conditioning (RIC) increases intestinal perfusion in necrotizing enterocolitis. However, the effect of RIC on epithelial regeneration remains unknown. We aim to investigate the effect of RIC on epithelial regeneration using intestinal organoids.

Methods: RIC involved 4-cycles of hindlimb ischemia followed by reperfusion in pup mice. Blood was collected from RIC and non-RIC (control) pups, and plasma was obtained. Intestinal organoids were derived from crypts of small intestine and monitored daily. Organoids were derived from pups receiving RIC (RIC organoids) or from control pups (control organoids) (Fig.-A). Control organoids were exposed to plasma from control and RIC animals (Fig.-B). Vascular barrier was generated using Transwell system where endothelial cells were seeded onto Transwell membrane for 1 day (mimicking leaky vasculature as in injury state) or after confluence of cells (mimicking tight endothelial barrier as in healthy state) (Fig.-C). RIC or control plasma was added above the transwell membrane to evaluate the effects on organoid proliferation (Fig.-D and E).

Main results: RIC organoids had increased proliferation compared to control organoids (Fig.-A). RIC plasma prolonged organoids survival up to 72 hours compared to 12 hours for control plasma (Fig.-B). RIC plasma maintained organoid viability in both leaky and tight vasculature barrier up to 72 hours (Fig.-D). Organoids exposed to control plasma died by 24 hours in a leaky environment and continued proliferating up to 72 hours only in tight endothelial barrier (Fig.-E).

Conclusions: RIC enhanced intestinal organoids proliferation. The beneficial effects are transferred by plasma despite endothelial barrier integrity being compromised.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG13_SO / 15:45 – 15:50

IS INVASIVE MECHANICAL VENTILATION (IMV) NECESSARY TO MANAGE PATIENTS WITH GASTROSCHISIS?

Julio César Moreno Alfonso[1], Cristian Rubén Zalles Vidal[2], Alejandro Alberto Peñarrieta Daher[2], Katherine Bautista Jiménez[2], María Lourdes Meléndez Roque[2], Desirée López González[2], Raul Villegas Silva[2]
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Abstract

Aim of the study: The treatment of gastroschisis has been simplified using preformed silos and sutureless closure. Some groups still use the IMV as an important tool in the initial treatment. We describe our experience in treating patients with gastroschisis without IMV.

Methods: Retrospective cohort of patients with gastroschisis treated with preformed silos and sutureless closure, between January 2014 and June 2021. Patients that arrived at the hospital with IMV were excluded. We analyzed the IMV vs. no-IMV patients, comparing demographic data, cause of IMV, length of stay, and mortality.

Main results: 109 patients were included: 68 male (62.4%), with a median weight of 2.280 kg. Fifty-one patients (46.8%) didn't require IMV. Fifty-eight patients (53.2%) required IMV, the causes were: elective surgery (n=16 cases; 14.7%), apnea (23; 21.1%), respiratory insufficiency (4; 3.7%), sepsis/pneumonia (8; 7.3%) and urgent surgery in 7 patients (6.4%). The-Gastroschisis-Prognostics-Score, gestational age, and weight didn't show a significant difference in the IMV vs. no-IMV groups. The group of patients that didn´t require IMV showed a significant minor length of stay (32.4 vs. 60.3 days, p= 0.003), earlier tolerance to full enteral feeds (21.9 vs. 31.6 days, p= 0.002), and minor mortality (0% vs 6%, p= 0.029).

Conclusions: IMV is not mandatory in the management of patients with gastroschisis. No-IMV is safe and associated with less length of stay, and earlier full enteral feeds. The weight, GPS, and gestational age in this study weren´t risk factors for IVM.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG14_SO / 15:50 – 15:55

QUALITY INDICATORS OF SURGICAL CARE IN HIRSCHSPRUNG'S DISEASE: A SYSTEMATIC LITERATURE REVIEW

Daniel Rossi[1,2,3], Anna Löf Granström[3], Nadine Teunissen[1,2], Simon Eaton[4], Tomas Wester[3], Rene Wijnen[1]
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Abstract

Aim of the Study: To enable benchmarking in Hirschsprung's disease (HD) care, selecting the right quality indicators is essential. This review aimed at generating an overview of process-, outcome- and baseline variables, serving as foundation for a longlist of potential HD quality indicators.

Methods: A systematic review of literature on the main HD care process was performed following PRISMA guidelines. Relevant literature published between 2015 and 2021 was obtained by combining the term "Hirschsprung's disease" with "treatment outcome", "complications", "mortality", "morbidity", "survival" in Medline, Embase and the Cochrane library. We extracted reported process- and outcome parameters and patient- and disease characteristics.

Main results: 276 publications fulfilled the inclusion criteria, 78 were excluded after abstract screening. From the included publications, 995 parameters were extracted and categorized into patient characteristics (n=219), care process characteristics (n=242) and outcomes (n=568). One-hundred-fourteen parameters were reported in more than 5% of publications. The most frequently reported patient and care characteristics were sex (87%), age at surgery (65%), extent of aganglionosis (50%) and type of surgical repair (52%). The most frequently reported outcomes were postoperative Hirschsprung's associated enterocolitis (63%), fecal incontinence (55%), and constipation (49%).

Conclusions: To establish a core indicator set for HD, potential quality indicators will be translated from the most frequently identified parameters in this review, followed by selection through a Delphi procedure. This set will enable benchmarking of HD care in European pediatric surgical centers within ERNICA and beyond. Resulting insight in practice- and outcome variation may contribute to overall improvement of HD care.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG15_SO / 15:55 – 16: 00

ANAL SENSIBILITY IS NOT ENTIRELY REGULATED BY THE INFERIOR NERVE BUT SEEMS TO BE REGULATED BY ANOTHER NERVE PATHWAY

Venla den Hollander, Monika Trzpis, Paul Broens
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Abstract

Aim of the Study: Current literature states that anal sensibility is regulated by the inferior rectal nerve, which enters the anal canal through the wall and from the distal and lateral side. However, patients born with anorectal malformations who undergo surgery during which the anal canal is dissected from its surrounding tissue do not all suffer from decreased anal sensibility. We propose another nerve pathway that regulates anal sensibility.

Methods: We performed a retrospective, observational study. We included 68 patients born with anorectal malformations who underwent anorectal function tests at the University Medical Center Groningen. We measured anal sensibility and the presence of the internal anal sphincter (IAS) according to type of malformation and type of treatment.

Main results: The mean anal sensibility was 7,2 mA (SD 5,2). Normal anal sensibility was present irrespective of the type of malformation. Anal sensibility was only decreased in 20 patients that underwent corrective surgery. Anal sensibility was related to the amount of distal intestine, including the IAS, that was saved during surgery.

Conclusions: Normal anal sensibility can be present in patients born with ARM, even after the anal canal was resected from its surrounding tissue. This means that the inferior rectal nerve does not entirely regulate anal sensibility because this nerve would be damaged during surgery. Thus, it is possible that another nerve, not yet identified, regulates anal sensibility - a nerve that enters the bowel more proximally and courses in the wall of the bowel to the anal canal and therefore remains intact after surgical intervention.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG16_SO / 16:00 – 16:05

ENUCLEATION FOR INTESTINAL DUPLICATIONS: A COMPARATIVE STUDY WITH INTESTINAL RESECTION AND ANASTOMOSIS

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Abstract

Aim of the study: Intestinal duplication enucleation (IDE) has been described as an alternative approach to intestinal resection with primary anastomosis (IRA), but no comparative studies have been published. The aim of this study was to compare the two surgical procedures for intestinal duplication.

Methods: A retrospective study was performed, including pediatric patients treated for intestinal duplication (2005-2022). Patients that underwent IDE were compared to those that underwent IRA. Data were compared using t-tests or contingency tables. Statistical significance was determined using $p<0.05$. Ethical approval was obtained.

Main Results: A total of 51 patients were treated for intestinal duplication, including 27 patients (53%) that underwent IDE and 24 IRA (47%), at a median age of 5 months. 25 (49%) were girls. Prenatal diagnosis was made in 74% (n=20) of IDE and 21% (n=5) of IRA (p=0.0002).Preoperative complications were present in 30% with IDE (n=8) and 71% with IRA (n=18) (p=0.005).There was no difference in operating time (94min for IDE vs 98min for IRA, p=0.3).Enucleation was performed using laparoscopy in 8 patients (30%). Patients that underwent IDE had shorter time to first feed (1 vs 3 days, p=0.0003) and length of stay (4 vs 6 days, p= 0.0009) compared to IRA. The rate of post-operative complications was similar (7% for IDE vs 13% of IRA, p=0.6). No reintervention was necessary. Enucleation was attempted in 3 (6%) patients that underwent IRA.

Conclusions: Duplication enucleation is associated with reduced length of stay and time to first feed, without increasing surgical time and complications.

24th EUPSA CONGRESS
June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG17_SO / 16:05 – 16:10

TRANSITION OF CARE FOR PATIENTS WITH CONGENITAL COLORECTAL DISEASES IN EUROPE

Cunera de Beaufort[1], Dalia Aminoff[2], Ivo de Blaauw[3], Jens Dingemann[4], Natalie Durkin[5], Wout Feitz[3], JoAnne Fruithof[6,7], Caterina Grano[8], Carmen Mesas Burgos[9], Nicole Schwarzer[10], Graham Slater[6], Tutku Soyer[11], Christiano Violani[8], Rene Wijnen[12], Paolo de Coppi[5], Ramon Gorter[1]
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Abstract

Aim of the Study: Transition of care (childhood into adulthood) of patients with congenital colorectal diseases (anorectal malformations (ARM) and Hirschsprung's disease (HD)) ensures continuous monitoring of these patients. The aim of this international study was to assess the current status of transition of care programs for patients with congenital colorectal diseases.

Methods: A survey was developed by members of EUPSA, ERNeUROGEN, and ERNICA, including patient representatives (ePAGs), comprising four domains: general information, general questions of transition to adulthood, and disease specific questions regarding transition of care and adult care programs. Recruitment of centres was done by ERN's and EUPSA, using mailing-lists and socialmedia accounts. Data were reported with descriptive statistics.

Main results: In total, 82 centres from 21 different countries entered the survey. Approximately half of them was a member of an ERN network. Some 72 centers (87.8%) had an area of expertise for both ARM and HD. Transition of care programs were installed in 44% of the centres and adult care programs in 31% of the centres. Large variety of the programs amongst centres was present. Adult surgeons were mentioned as most suitable caregivers for adult patients with ARM or HD, whereas pediatric surgeons were mentioned as the doctor who should be responsible for the transition.

Conclusions: Despite awareness of the importance of transition of care and adult care programs, these programs were only installed in less than 50% of the participating centres. Various transition and adult care programs were applied, with large heterogeneity in implementation, content and responsible caregivers involved.

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June 7 - 10, 2023
Hyatt Regency Hotel IZMIR / TURKIYE
European Paediatric Surgeons' Association

LG18_SO / 16:10 – 16:15

GOOD FECAL CONTINENCE DESPITE OBSTRUCTIVE SYMPTOMS AND FREQUENT MUCOSAL INFLAMMATION AFTER PROCTOCOLECTOMY AND ILEOANAL ANASTOMOSIS FOR TOTAL COLONIC AGANGLIONOSIS

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Abstract

Aim of the Study: Bowel dysfunction is common after surgical repair of total colonic aganglionosis (TCA) for unclear reasons. We analyzed fecal continence in relation to obstructive symptoms and bowel inflammation in TCA patients treated in our hospital by proctocolectomy and ileoanal anastomosis (PC-IAA).

Methods: Altogether, 17 TCA patients (14 males) underwent PC-IAA with (n=14) or without J-pouch during 1997-2022. Bowel control, endoscopy findings and fecal calprotectin were recorded at latest follow-up.

Main results: Median age at PC-IAA was 4.9 (range 0.4-51) months. Aganglionosis extended to ileum in 11 patients (Table). Temporary ileostomy was closed 2.7 (1.4-5.5) months after PC-IAA. Median pouch length was 3.5 (3-5) cm. One patient with severe intestinal dysmotility and redo PC-IAA after transitional zone pull-through remains on supplemental parenteral nutrition. Among 15 patients aged >2.5 years, median age was 11 (5.3-19) years, 13 (87%) reported no soiling or staining, none used protective aids, and median 24-hour stooling frequency was 4 (2-10). Any nighttime bowel motions were reported by 6 (40%). Five patients with recurrent outlet obstructions w/wo enterocolitis required median 11 (5-16) intersphincteric Botox injections. Although median calprotectin was within normal range, calprotectin was increased to 248 (154-578) ug/g in 7 (47%) patients, 4 of whom had outlet obstructions. Endoscopy revealed histological mucosal inflammation in 6/14 (43%).

Conclusions: While school-age children with TCA had good fecal continence following PC-IAA, recurrent obstructive symptoms occurring in one third were effectively treated with Botox injections in majority. Frequent mucosal inflammation requires endoscopic follow-up and further investigations.

Table. Key characteristics and outcomes of TCA patients after ileoanal anastomosis	
Age at PC-IAA, m	4.9 (0.4–51)
Ileum resected, cm	15 (0–50)
Temporary covering loop-ileostomy, n	16/17
Age at ileostomy closure, m	7.1 (2.2-53)
Prolonged (>1 month) parenteral nutrition (PN), n	3/17
Duration of PN, y	2.1 (1.6-3.0)
Patients with obstructive symptoms, n	5/16
Intersphincteric botox injections, n	11 (5-16)
Fecal calprotectin, ug/g	91 (5-578)
>100 ug/g	7/15
Endoscopic pouch examination, n	15/17
Macroscopic inflammation, n	3/15
Histological inflammation, n	6/14
Data are median (range) or frequency.	

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LG19_SO / 16:15 – 16:20

FAMILY EXPERIENCES WITH HEGAR DILATOR. PROPOSAL FOR A NEW DESIGN

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Abstract

Aim of the Study: Home anorectal dilation with the Hegar dilator is part of the protocol in most pediatric colorectal procedures, but it sometimes generates anxiety and anguish in tutors. The objective of this study is to evaluate the family experience with the use of Hegar dilator and collect their perception of a new dilator design, which is intended to be a less traumatic alternative for caregivers.

Methods: Retrospective study: An anonymous questionnaire, validated by the Quality Commission, consisting of 23 items on the perception and experience with Hegar dilators was administered to the caregivers of patients operated on for colorectal pathology between 2015 and 2022, who followed a home dilation protocol. After that, they were shown the new dilator model and their impression of it was collected.

Main results: Twenty-one patients operated on for anorectal malformation and one patient for Hirschsprung's disease were contacted. 100% of those surveyed affirm that the information received before leaving hospital was complete, although 84% later felt insecure when performing the dilations at home, especially regarding the length that they had to introduce (54%) and fear of harming the child (76%). Most report (86%) that the steel dilator is very cold and rigid. 70% describe the new dilator as less unpleasant, more flexible, warm, practical, and easy to use.

Conclusions: Most families perceive the experience with Hegar dilator negatively. The use of the new polyvinyl dilators could contribute to improving the experience of caregivers, without detriment to the process of anorectal dilation.

24th EUPSA CONGRESS
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LG20_SO / 16:20 – 16:25

LONG-TERM OUTCOMES OF BOWEL AND URINARY TRACT FUNCTION FOR FEMALES SURGICALLY TREATED FOR ANORECTAL MALFORMATION

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Abstract

Aim of the Study: The primary aim was to investigate bowel and urinary tract function in females operated for anorectal malformation (ARM). The secondary aim was to investigate if ARM subtype influences these long-term outcomes.

Methods: This was a cross-sectional questionnaire-based observational study including females treated for ARM at our institution between 1994 and 2017. The bowel function was assessed with bowel function score (BFS) and urinary tract function with Lower Urinary Tract Symptoms (LUTS) questionnaires. Patient characteristics were retrospectively retrieved from the medical records and descriptive statistics were used for analysis. Outcomes were compared with normative Finnish data. The ethics review authorities approved the study.

Main Results: Forty-four (43.1 %) of 102 females responded to the questionnaires. One patient had a colostomy and was excluded from analysis. Ten (34.5 %) of 29 patients aged 4 to 17 years and 4 (28.6%) of 14 patients >18 years of age, respectively, reported a well-preserved bowel function (BFS≥17), Figure 1. Constipation issues decrease with age. BFS was similar in patients with perineal and vestibular fistulas. Thirty-six (83.7%) of the patients had at least one LUTS. Further, adult patients appear to have a less severe LUTS when compared with females < 18 years of age and no adult patients had issues with involuntary urinary leakage.

Conclusions: Only 28.6 % of the adult patients reported a well-preserved bowel function, which was similar to the proportion reported by children 4-17 years of age. LUTS was common, but less severe in adult patients.

LG21_SO / 16:25 – 16:30

TREATMENT STRATEGY OF CHILDREN WITH FAMILIAL ADENOMATOUS POLYPOSIS: PREDICTORS OF TOTAL COLECTOMY AND OUTCOMES. A SINGLE-CENTER EXPERIENCE.

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Abstract

Aim of the Study: Prophylactic colectomy at a premalignant stage is the most important question in treatment children with familial adenomatous polyposis (FAP). To search predictors of surgery in children with FAP and analyze complications and outcomes.

Methods: This cross-sectional study included of 46 children with FAP. Patients were divided into 2 groups: surgical (24) and non-surgical (22). The age at onset of the disease, the characteristics of adenomas, the presence of anemia and family history, concomitant polyposis of the upper gastrointestinal tract (GIT) were analyzed. Statistical analysis: comparison was performed by unpaired t-test, Fisher's test. P-values of <0.05 were considered significant.

Main results: There were no differences in gender, age of manifestation, anemia severity, or polyp size. The median number of polyps was different in the groups (850 (500-1000) and 100 (15-500), p=0.0001). Polyposis of the stomach (19% and 3%, p=0.01) and duodenum (11% and 3%, p=0.04) were also more common in the surgical group. Logistic regression revealed that polyps over 850 were an independent predictor of colectomy (OR: 10.7; 95% CI: 1.9–92, p=0.01). Early and late complications after IPAA occurred in 8% and 23% of patients. The most common complication after IPAA was the stenosis of the ileal pouch-anal anastomosis. Stenosis was successfully treated by a single dilation in all cases. The median of stool frequency after surgery is 6 (4,8) per day.

Conclusions: The number of polyps over 850 is a predictor of colectomy. Ensuring an acceptable quality of life for children with FAP remains priority.