cohort, 87%, 80%, and 44% were referred to a cancer center, seen by an oncologist, and treated, respectively. Among referred patients, 73%, 24%, and 3% were from urban, rural, and unknown settings respectively. Median time from referral to consult was 11 days for both urban and rural populations (p=0.05). Patients with fewer hospitalizations waited 9 days from referral to consult compared to 13 days for individuals with more hospitalizations (p<0.001). Rural patients were less likely to be referred (OR 0.442, 95% CI 0.269-0.725, p=0.001) and treated (OR 0.643, 95% CI 0.426-0.971, p=0.036) whereas hospitalized patients (OR 2.855, 95% CI 1.158-7.042, p=0.023) and those with longer hospital stays (OR 2.728, 95% CI 1.603-4.644, p<0.001) were more likely to be referred. All patients experienced a poor prognosis, irrespective of urban vs. rural (HR 1.169, 95% CI 0.986-1.386, p=0.072) and hospitalization (HR 0.993, 95% CI 0.824-1.198, p=0.945) status.

Conclusions: Rural patients with AGCs face potential access barriers due to geography. By the time that patients are hospitalized, referral and treatment still translated to poor survival. Prompt referral and entry into the cancer care system is essential, particularly for patients who live remotely.

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1471P 3D patient-derived gastric cancer organoids as a tool for functional precision medicine for gastric cancer patients

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Background: Gastric cancer (GC) has poor prognosis and presents big heterogeneity and unknown mechanisms of drug resistance. Tumor organoids are a 3D *in vitro* culture platform from self-organizing tumor stem cells, which recapitulates the *in vivo* characteristics reflecting the heterogeneity of the original tumor. The establishment of gastric cancer organoids (GCO) represents a good strategy to evaluate tumor molecular features. GCO also permit testing drug resistance performing functional dynamical analyses, representing a relevant arm for precision medicine.

Methods: A prospective biobank of GCO derived from advanced GC patients, mostly from biopsies or palliative gastrectomy, was generated according to an in-house protocol from January 2019. Tissue samples were analyzed by a dedicated pathologist with immunohistochemistry for HER2, PD-L1, TILs and microsatellite status, tumor samples and GCO were also screened for EPCAM, CK7, CK20, CDX2 and MUC5A. The molecular profile was completed with next generation sequencing (NGS) analyses with an in-house panel (Illumina®) to match the original tumor and its GCO. To assess drug sensitivity, cell viability was analyzed through luminescent Cell Viability Assay.

Results: From February 2019, 25 GCO were established with a success rate of 68% (20 from gastroscopy, 3 from gastrectomy, 1 from ascites and 1 from pleural effusion). 64% of these tumors were intestinal, 24% diffuse and 12% mixed subtypes, according to Lauren classification. The organoids histopathological analysis matched with the original tumors. NGS analysis also showed a significant molecular concordance between the GCO and each original patient (R>0.90). The capability in reproducing GC heterogeneity was observed when GCO were generated from two different biopsies from the same patient. Copy number variation (CNV) analysis showed that only one of these lines was HER2+, being a mirror of the heterogenous expression of HER2 in the original tumor. Drug sensitivity assays were also performed to match the response observed in the GCO with each patient.

Conclusions: GCO could be a valuable tool for heterogeneity assessment as well as drug sensitivity for GC patients.

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1472P Association among blood transfusion, post-operative infectious complications, and cancer specific survival in patients with stage II/III gastric cancer after radical gastrectomy: Emphasizing benefit from chemotherapy

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Background: Because of anemia on hospital admission and intra-operative blood loss, peri-operative blood transfusion(BTF) is wildly used on patients with middle and advanced stage gastric cancer (GC). The aim of this study was to investigate the potential accumulative effect of BTF and post-operative infectious on cancer-specific survival (CSS) in those GC patients after radical gastrectomy and explore the benefit from adjuvant chemotherapy(AC).

Methods: Medical records of 2114 consecutive stage II/III GC patients who underwent curative resection and planned to receive AC between November 2010 and May 2019 were retrospectively reviewed. Then, univariate and multivariate analyses were applied on the independent predictive factors with post-operative infection. At last, Cox regression analysis is used to assess the relationship among BTF, infections and CSS.

Results: Of the 2114 patients, 507 (24.0%) received peri-operative BTF and 148 (7.0%) developed post-operative infection and moreover, BTF was identified to be an independent predictor for infections. In addition, both BTF and infections independently predicted poor CSS (hazard ratio (HR): 1.193, 95% confidence interval (CI): 1.007-1.414; HR: 1.323, 95%CI: 1.013-1.727), and an accumulative effect was identified because patients with both BTF and infection were having a much shorter CSS. Additionally, based on the further stratified analyses, it is demonstrated that complete AC ($\geq$ 6 cycles) could significantly improve CSS in patients with BTF and/or infections, which was comparable to those without BTF and/or infections (P = 0.496).

Conclusions: BTF was identified as an independent risk factor to post-infection and the reason for shorter CSS in stage II/III GC. Meanwhile, BTF and post-infections performed an accumulative effect on worse CSS. Meanwhile, complete AC could significantly improve CSS of those patients. Thus, strategies designed to ensure the completion of AC should be recommended.

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1473P Parameters of complete blood count might predict the prognosis of patients with advanced gastric cancer

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Background: Metastatic gastric cancer is a common disease with poor prognosis. In this disease, estimating the prognosis with a simple complete blood count has attracted attention in many studies. However, the results of the studies are incompatible with each other and no definitive conclusion has been obtained. The aim of the current study is to evaluate the relationship between parameters in the complete blood count and disease prognosis in patients with advanced gastric cancer (AGC).

Methods: Between 2009 and May 2019, the files of patients with AGC were retrospectively evaluated. All of the patients had histopathological diagnosis of gastric adenocarcinoma. Patients with concomitant haematological disease and previously using drugs that might affect complete blood count were excluded from the study. Blood counts of the patients were examined before receiving any treatment at the time of diagnosis of AGC. All parameters derived from complete blood count and

defined in literature were evaluated in this study. These were: neutrophil lymphocyte ratio (NLR), platelet lymphocyte ratio (PLR), monocyte lymphocyte ratio (MLR), systemic immune-inflammation index (SII), haemoglobin, lymphocyte, platelet. The patients were divided in two subgroups according to the median values of NLR, PLR, MLR and SII.

Results: A total of 105 patients with AGC were included in the study. There was no relationship between survival and anaemia (hgb <12gr / dl), thrombocytopenia (100.000 / μL), leukopenia (<4000 / μL) and lymphopenia (1000 / μL) ($P = 0.29$, $P = 0.49$, $P = 0.53$, $P = 0.29$, respectively). There was a statistically significant relationship between NLR ($P = 0.008$), PLR ($P = 0.019$), MLR ($P = 0.06$) and overall survival; there was no significant result with SII ($P = 0.375$). While the median survival was 14.6 months in the patients in the low NLR group, this rate was 7.9 months in the high group. Likewise, in the group with low PLR and MLR, the mean survival of the patients was 12.7 and 14.6 months, respectively. Median survival in patients with high PLR and MLR was 8.2 and 7.9 months, respectively. Multivariate analysis showed that NLR was an independent predictor of overall survival.

Conclusions: Through the parameters derived from complete blood count, NLR appears to be a promising prognostic marker in patients with AGC.

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1474P Immune-inflammatory indexes and BMI as predictors of outcome and treatment response in advanced gastric cancer receiving ramucirumab-containing second-line

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Background: The efficacy of Ramucirumab in the treatment of advanced gastric cancer was demonstrated in the two pivotal study REGARD and RAINBOW, which both demonstrated significant improvements in Overall Survival (OS) and Progression-Free Survival (PFS). However, data on validated clinical and biochemical predictive factors in a real-life setting are still lacking.

Methods: Retrospective analysis of medical records of patients with advanced gastric cancers treated with ramucirumab or ramucirumab/paclitaxel from April 2015 to April 2020 at Modena Cancer Center was conducted. Clinicopathological and biochemical parameters deemed of interest were collected. The cut-off value for continuous variables was assessed at 75° percentile. Treatment effects were evaluated by univariate and multivariate Cox proportional hazards regression models for OS and logistic regression analysis.

Results: During the study period, 49 patients with advanced gastric cancers were treated with ramucirumab alone (6.1%) or in combination with paclitaxel (93.9%) as second line therapy. At the multivariate, only CEA showed to impact on the second-line PFS with statistical significance (p=0.013, 95% Confidence Interval [CI] 1.08-6.4). By performing a logistic regression analysis, Absolute Neutrophil Count (ANC), Neutrophil Lymphocyte Ratio (NLR), Systemic Inflammatory Index (SII), CEA, Body Mass Index (BMI), ECOG Performance Status and Clinical Benefit (defined as complete response, partial response and stable disease versus disease progression) showed to be correlate with a PFS of more than 6 months. ECOG 0 and BMI>25 were the main predictive factors associated with Clinical Benefit (p=0.018 and p= 0.0006, respectively).

Conclusions: Favorable inflammatory indexes, CEA, BMI and ECOG confer a better second-line PFS. ECOG and BMI seem to be strictly related to Clinical Benefit, thus making these two parameters predictive of response to Ramucirumab. In the future, it will be mandatory a validation of our results on a larger population by the use of more specific parameters for the sarcopenia assessment.

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1475P Negative impact of intraoperative blood loss on long-term outcome after curative gastrectomy for cT3/4a gastric cancer - Exploratory analysis of JCOG1001 study

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Background: Recently, several retrospective studies have shown a negative prognostic impact of intraoperative blood loss (IBL) in curative gastrectomy for advanced gastric cancer. However, there was no reliable reports analyzing the prospective cohort in which the patients, the operative procedure, and follow-up were strictly defined by the protocol. The objective of this study was to evaluate the impact of IBL on long-term outcomes using the data of JCOG1001 phase III trial which failed to show survival superiority of bursectomy to non-bursectomy for cT3/4a gastric cancer.

Methods: Of all 1204 cases enrolled in the JCOG1001 trial, 1203 cases were included in this study, except for one case missing a data of IBL. From the tertile of IBL (400ml, 196ml), we divided into three groups; IBL ≥400ml as large blood loss (LBL, n=406), 400ml >IBL ≥200ml as medium blood loss (MBL, n=393), and IBL <200ml as small blood loss (SBL, n=404). The impact of IBL on relapse-free survival (RFS) were evaluated by univariable and multivariable Cox's regression analyses.

Results: The median (range) IBL were 575 ml (400-3068) in LBL, 283 ml (200-398) in MBL and 110 ml (0-199) in SBL. 3-year RFS in LBL, MBL and SBL were 70.6% (95% CI, 65.7-74.9), 74.8% (70.0-79.0) and 81.7% (77.3-85.2), respectively, which were significantly different among the three groups (p=0.0019). As first recurrent type, hematogenous (liver, lung and bone) recurrence were more frequently observed in LBL and MBL compared to SBL. In the multivariable analysis for RFS, IBL was one of the independent risk factors, together with ECOG performance status (0/1), pStage, and postoperative adjuvant chemotherapy. Comparing with SBL as a reference, hazard ratio of LBL was 1.49 (95% CI, 1.09-2.04, p=0.014) and that of MBL was 1.58 (1.18-2.12, p=0.0024).

Conclusions: Negative impact of IBL on long-term outcome after curative gastrectomy was confirmed by analyzing the data of large-scale prospective study. Surgeons need to make an effort to reduce IBL as much as possible.

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1476P NUTRitional Index for immune-checkpoint inhibitors (ICI) (NUTRICI) for patients (pts) with metastatic gastro-oesophageal junction (GOJ)/gastric cancer (GC)

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Background: Nutritional status is strongly related to the prognosis of mGOJ/GC pts. ICI improved the overall survival (OS) in heavily pre-treated mGOJ/GC pts. The aim of this retrospective study was to investigate the potential prognostic role of nutritional markers in ICI-treated mGOJ/GC pts.

Methods: Twelve serum and anthropometric nutritional markers derived from blood and CT scans [weight, body mass Index (BMI), sagittal and waist diameter, waist to hip ratio (WHR), albumin, glucose, lymphocytes, albumin/globulin ratio (AGR), total serum proteins (PRO), Onodera's prognostic nutritional index] were retrospectively analyzed at baseline. All variables were categorized according to the MaxStat statistics and analyzed for their prognostic value with univariate (UVA) and multivariate (MVA) cox regression analyses.

Results: From June 2014 to December 2018, 57 mGOJ/GC pts (14 females, 43 males) (median (m) age 63 years) received ICI as second-line therapy (pembrolizumab n=26, nivolumab n=16, avelumab n=15). The mfollow-up was 27 months (mo) (4 to 53 mo). mOS was 10.8 mo (0.2 to 52.2 mo). PRO and WHR were independent predictors for