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PAEDIATRIC NEPHROLOGY

SP890 VENTRICULO-PERITONEAL SHUNTS IN CHILDREN ON HEMODIALYSIS: A SURVEY OF THE EUROPEAN PAEDIATRIC DIALYSIS WORKING GROUP (EPDWG)

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Introduction and Aims: Dialysis in children with concomitant ventriculo-peritoneal shunts (VPS) is rare. Registry data suggests that peritoneal dialysis (PD) is safe in children with VPS, but little is known on hemodialysis (HD) in children with VPS. There is a potential for increased shunt infections, and poor tolerance of dialysis as fluid shifts induced during a HD session may lead to abrupt changes in the intracerebral pressure.
Methods: We performed a 10-year survey to determine the prevalence, complications and outcome for children with VPS on HD in 15 dialysis units from 12 countries participating in the European Paediatric Dialysis Working Group.
Results: Eleven cases of HD with a VPS were reported in 15 paediatric dialysis units over the last 10 years (prevalence 1.33%). HD or haemodiafiltration (HDF; n = 2) was the sole dialysis modality: no patient received PD at any point. One shunt was ventriculo-atrial. The median age at start of dialysis was 9.6 (inter-quartile range 1.0-15.0) years, and median HD vintage 2.4 (1.70- 3.0) years. Vascular access consisted of central venous line (CVL) in 6 and arterio-venous fistula in 5 children. There were no reports of shunt infection or meningitis despite 3 CVL infections in 2 patients. Symptoms of hemodynamic instability were reported in 6 children (56%) at least once per week: hypotension or hypertension occurred in 36% (n=4) and nausea, vomiting and headaches in 18% (n=2), with less frequent hemodynamic instability in 4 others. Seizures on dialysis occurred in 2 children, less
than once per month, one also experiencing visual disturbances. One centre used prophylactic mannitol for each session; and one commenced mannitol following onset of symptoms. On final follow-up at 4.0 (0.38-7.63) years, 3 children remained on HD and 8 had a functioning transplant. No patient switched to PD as a result of symptoms.
Conclusions: HD in children with a VPS is safe, but associated with frequent symptoms of hemodynamic instability. No episodes of VPS infection or meningitis were seen even in those with CVL sepsis.

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