Abstract:

Objective: To evaluate the hospital charges associated with central venous stenosis in pediatric patients requiring long-term central venous catheters, via associated charges and hospital length of stay (LOS).

Study design: This institutional review board-approved retrospective review identified pediatric patients with central venous catheters and either short bowel syndrome (SBS) or end-stage renal disease (ESRD) diagnosed between 2008 and 2015 using the Pediatric Health Information System. These 2 cohorts were selected because long-term central venous access is commonly required for survival. Prevalence of central venous stenosis, total number of admissions, procedures, LOS, and associated charges were recorded. Statistical analysis performed with Wilcoxon nonparametric and 2-sample t test with a significance of P < .05.

Results: Of 4952 patients with SBS and 4665 patients with ESRD, 169 (3.4%) patients with SBS and 191 (4.1%) patients with ESRD were diagnosed with central venous stenosis (360 patients total [3.7%]). The cumulative median admissions and LOS was higher in patients with SBS with central venous stenosis (15 admissions and 156 days) vs those without central venous stenosis (5 admissions and 110 days) (P < .001). The cumulative median number of admissions and LOS was higher in patients with ESRD with central venous stenosis (13 admissions and 72 days) vs those without central venous stenosis (7 admissions and 42 days) (P < .001). The mean cumulative charges for patients with SBS with central venous stenosis were higher than for those without central venous stenosis ($1.89 million vs $1.11 million, respectively) (P < .001). Similarly, the mean cumulative charges for patients with ESRD with central venous stenosis were higher than for those without central venous stenosis ($1.17 millions vs $702 000, respectively) (P < .001).

Conclusions: Pediatric patients with central venous stenosis have significantly higher total charges, imaging charges, number of admissions, and longer LOS. Attention to mitigate the incidence of central venous stenosis in pediatric patients requiring long-term central venous access is warranted.

Reference: