How Common are Pediatric Feeding Disorders?

Feeding disorders in children commonly are seen in both the primary care and pediatric gastroenterology setting. There is no good epidemiologic data about the prevalence of pediatric feeding disorders in children in the United States. Thus, the authors of this study used de-identified data from the Truven Health Analytics MarketScan Commercial Claims and Encounters Database (Ann Arbor, Michigan) for patients with private insurance as well as Arizona and Wisconsin Medicaid data for patients with Medicaid covering the time period from 2009 to 2014. Children between 2 months and 18 years were included in the study, and the authors used 25 International Classification of Diseases (ICD)-9 and ICD-10 codes to identify potential study subjects as there is no specific "feeding disorder" diagnosis code for children. Children who had been diagnosed with one of these codes and not with an eating disorder were included. The authors evaluated all such patients for co-morbid conditions, the presence of malnutrition/failure to thrive, and the presence of a gastrostomy tube. Children were identified as having a complex chronic condition (CCC) based on known ICD codes if they had a medical condition expected to last at least 12 months and had at least one organ system involvement which could require pediatric subspecialty care and potential hospitalization.

The presence of feeding disorders increased in all databases during the time period with significantly more children covered by Medicaid having feeding disorders (Arizona, 16.97 per 1000 child-years; 95% CI, 16.84-17.10 and Wisconsin, 21.43 per 1000 child-years; 95% CI, 21.27-21.60) compared to children covered with private insurance (9.38 per 1000 child-years; 95% CI, 9.35-9.40). A lower prevalence of feeding disorders was present in older patients (defined as 12-18 years old), and more males had feeding disorders compared to females throughout the study. Specific patients with CCC (including children with respiratory, gastrointestinal, miscellaneous technology dependency, prematurity/neonatal risk, and organ transplantation) had higher rates of feeding disorders, and the prevalence of feeding disorders in children with a CCC increased throughout the study despite no increase in the number of children with a feeding disorder and without a CCC. Although the prevalence of malnutrition in children with a feeding disorder decreased in all databases throughout the study, children with an associated CCC had a higher prevalence of a malnutrition. The prevalence of gastrostomy tubes decreased in this population throughout the study period, and most children who had both a feeding disorder and a gastrostomy tube also had an associated CCC.

This study demonstrates that pediatric feeding disorders are increasing in children in the United States, and this disorder is commonly associated with the presence of a CCC. Thus, we need early intervention as well as improved long-term treatment options for this population as well as better accuracy in ICD coding in order to track and to care for these children over time.

Kovacic K, Rein L, Szabo A, Kommareddy S, Bhagavatula P, Goday P. Pediatric feeding disorder: a nationwide prevalence study. Journal of Pediatrics 2021; 228: 126-131.

Teduglutide and Short Bowel Syndrome in Children

Intestinal failure due to short bowel syndrome (SBS) is disabling as well as life-threatening in children. Teduglutide is a glucagon-like peptide-2 which promotes intestinal growth and bowel adaption. There is minimal data in children regarding the efficacy of this new medication, and the authors of this prospective, multi-center study followed 17 children with SBS who were treated with teduglutide at 0.05mg/kg/day via the subcutaneous route. All included patients had less than 100 cm of remaining bowel (except for 2 patients), were on parenteral nutrition (PN), and had no surgical intervention or changes in PN for 3 months prior to teduglutide use. At each clinic visit (baseline, 3 months, 6 months, and 12 months after therapy), information on PN volume, nutritional support, recorded stool losses, plasma citrulline levels, and the presence of adverse events were recorded. Any patient with a reduction in PN by

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20% was defined as a "responder". All patients were older than one year of age, and all patients developed intestinal failure after birth. The most common cause of intestinal failure was necrotizing enterocolitis. These patients were receiving an average 55 mL/kg/day of fluid volume daily (range 8-210 mL/kg/day) and were receiving 33 kcal/k/day of nutritional support (range 0-65 kcal/kg/day). Their mean initial citrulline level was 20 micromoles/L (range 7.8-51 micromoles/L).

A total of 15 of the 17 patients were able to complete one year of teduglutide. By the 3-month follow up, 3 patients had achieved full enteral autonomy. This trend continued with an additional 4 patients and then 3 patients reaching full enteral autonomy at 6 months and 12 months, respectively. Most patients were able to reduce their fluid volume and nutritional support, and in total, 14 of the 15 patients who finished the therapeutic study were responders to teduglutide. A 20% or greater reduction in PN support was noted in 47%, 87%, and 93% of patients at 3, 6, and 12 months respectively, while 17%, 44%, and 60% of patients were able to wean off of PN at 3, 6, and 12 months respectively. Stool output improved and citrulline levels increased in all patients throughout the study. The most common adverse events consisted of abdominal pain occurring in 30% of patients, followed by injection-site reactions, nausea, headaches, abdominal distention, and the presence of upper respiratory tract infections. Most of these side effects were mild or moderate.

This small study demonstrates promising results regarding the efficacy of teduglutide in the treatment of pediatric intestinal failure. More research is needed for children with an even greater loss of bowel as well as determination of cost savings associated with teduglutide use.

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