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Preventing hospital readmissions: roll over or attack?

— Paul G. Fisher, MD

Over the past several years, Medicare has pressured thousands of American hospitals to curb readmissions of older adults in the weeks following an inpatient discharge, often by levying high fines. Although that measure has proved controversial, now Medicaid, a few states, and some third-party payors have followed suit with plans to monitor and sometimes penalize hospitals serving children who are readmitted perhaps too soon or often. Is this another case of the tail wagging the dog? Should pediatricians take the lead?

In this issue of *The Journal,* two reports provide data to help us begin to answer this question. Gay et al used data from over 1 700 000 hospitalizations from 2009 through 2011 at 58 children's hospitals, in conjunction with the 3M™-PPR tool, and found that less than 40% of all-cause readmissions were considered potentially preventable. However, potentially preventable readmissions did account for more than a quarter of the $2 billion annual cost for all-cause readmissions, with the most costly readmissions being ventricular shunt procedures, seizures, and sickle cell crisis.

In another study, Edmondson et al used California state discharge databases, also from 2009 through 2011, to describe the frequency and type of acute care revisits following tonsillectomy. From 35 085 tonsillectomies among children and young adults aged 0 to 24 years, the revisit and readmission rates were 10.5% and 2.1%, respectively. Two-thirds were unrelated to bleeding, but often due to pain, nausea, vomiting, or dehydration, occurring just a couple days after discharge. In older teens and college-age young adults, the revisit rate exceeded 15%, though bleeding complication rates did not increase. Could perioperative dexamethasone, optimization of pain medication, and changes in communication and education about side-effects have reduced these rates?

What should we do? In an accompanying editorial, Payne et al points out that more work is needed. Fewer pediatric than adult readmissions are potentially preventable, and pediatric rehospitalizations present a smaller opportunity for cost savings. Nevertheless, some readmissions, particularly after surgery, might be prevented with improvements in the discharge process. Collaborative research and more information are warranted. We need to take the dog by the leash and figure out where both the dog and master go from here.

Article page 607 ▶
Article page 613 ▶
Editorial page 519 ▶

Breastfeeding—protection against hospitalization in a developed country

— Sarah S. Long, MD

A robust population level administrative database in Scotland, including child health surveillance and hospitalizations from 1997 and 2009, was used to estimate associations of exclusive breastfeeding at 6 to 8 weeks of age and hospitalizations (throughout childhood for some birth cohorts). Discharge diagnoses were considered, and analysis adjusted for a range of socioeconomic factors. Investigators used discharge diagnosis of fracture, which could not be attributable to mode of feeding, as a marker of residual confounding.

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The study documented individual child hazard ratio of 1.4 (95% CI, 1.35-1.45) for hospitalization for common childhood illnesses among formula-fed compared with breastfed infants. Peak differences for hospitalizations were found in the first 6 months of life. Because data also could be analyzed on the level of socioeconomic factors by area, advantages of breastfeeding could be documented in both higher and lower socioeconomic strata. The most significant limitation of this study using administrative data is their ability to document mode of feeding only at 6 to 8 weeks of age, which precludes assessment of duration of breastfeeding required to attain the benefit shown or speculation on the mechanism of protection.

Article page 620 ▶

Gut colonization in preterm infants

— Alan H. Jobe, MD, PhD

In all of medicine, the gut microbiota has become a target of interest because of how the microbiota can modulate normal health and disease. Colonization after birth depends on variables that include route of delivery (vaginal or cesarean), mode of feeding and gestation of birth. The report by Arboleya et al in this issue of *The Journal* adds more granularity to the pattern of colonization of the gut of the premature. They report that preterm infants have fewer *Bacteroidaceae* and more *Lactobacillaceae* than term infants for the first months of life by sequential analyses to 90 days of age. Perinatal antibiotics, given to the mother prior to the delivery or to the infant, increase *Enterobacteriaceae*. This study provides information that gives the clinician pause when deciding if an asymptomatic infant needs antibiotics. The decision to use antibiotics has been considered to be very low risk, but the more that is learned about the microbiota, the more questions and doubts arise. The subject of colonization of the infant is likely to get more complicated before there are clear answers that can inform clinical decisions.

Article page 538 ▶

Positive celiac serology not always diagnostic!

— Ivor D. Hill, MB, ChB, MD

Serologic tests for celiac disease (CD) are helpful in identifying children who might have the condition. Current guidelines recommend the tissue transglutaminase IgA antibody (TTG-IgA) as the most reliable and cost effective test. The endomysium IgA antibody (EMA-IgA) is also reliable, but more costly than the TTG. Traditionally, a diagnosis of CD is confirmed by demonstrating the characteristic features on small intestinal histology. The European Society for Pediatric Gastroenterology, Hepatology and Nutrition recently suggested that in some cases a diagnosis of CD may be possible without a biopsy, providing that the TTG-IgA is greater than 10 x the upper limit of normal (ULN) and the EMA-IgA is positive on a separate sample of blood. Because a diagnosis of CD mandates a lifelong gluten-free diet that can be burdensome, some physicians remain reluctant to diagnose CD on serology alone without a biopsy.

In this issue of *The Journal,* De Leo et al provide another reason for being cautious when considering a diagnosis of CD based on positive serologic tests alone. They describe two children with elevated TTG-IgA levels during a febrile illness. In one case the level was greater than 10 x the ULN. Neither had a positive EMA-IgA and both had histologically normal intestinal biopsies. Following recovery from their illness, the TTG levels returned to normal and remained so. Additional studies demonstrated the TTG antibodies did not originate from the intestinal tissues as occurs in CD. The take home message from these cases is to exercise caution when interpreting the meaning of an elevated TTG in a febrile child. Obtaining EMA in these cases may be helpful, as a negative result indicates that histologic changes of CD will likely not be present. A decline in the TTG levels after recovery from an illness also is indicative that CD is unlikely.

Article page 761 ▶