Use of Pictograms to Help Diagnose Functional Abdominal Pain

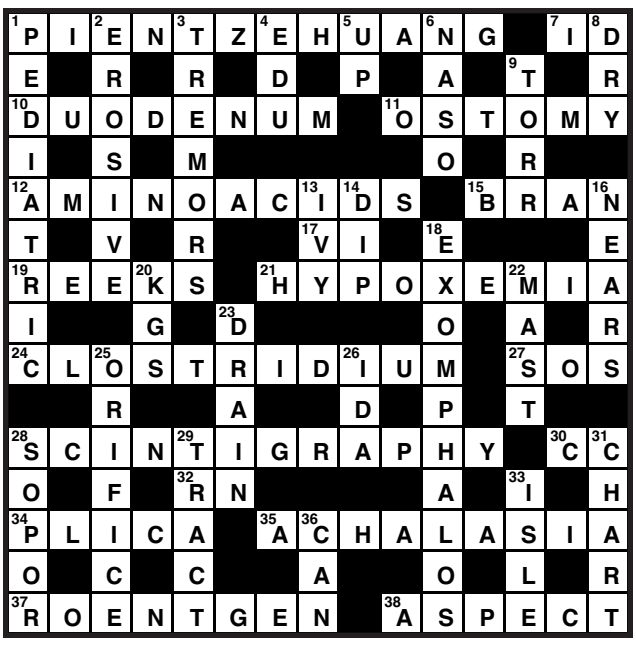
Functional abdominal pain (FAP) is a common presentation in both general pediatric and pediatric gastroenterology clinics, and there is no specific test to diagnose this disorder. A clinical history helps in determining if FAP is present, and the authors of this study evaluated the utility of pictograms in assisting the diagnosis of pediatric FAP.

This study was prospective and occurred over one year at two academic medical centers in Europe. Patients with organic gastrointestinal (GI) disease or patients who could not complete a symptom questionnaire independently were excluded, and recruited patients were randomly given a questionnaire with or without associated explanatory pictograms. The child's health care provider also filled out the questionnaire but was blinded to patient questionnaire results. In total, 144 patients participated in the study for which 62% of patients were female. The mean patient age was 13.7 ± 2.4 years. No significant difference was seen in concordance rates between the patient and healthcare provider when comparing individual GI symptoms, including any symptoms of abdominal pain. However, using a questionnaire with pictograms was statistically significant in determining symptoms of nausea and emesis with good interrater reliability for symptoms of nausea, emesis, and regurgitation as measured by Cohen's kappa coefficient. Children between 8 – 12 years of age had significantly more concordance of nausea and emesis symptoms when using a questionnaire with pictograms compared to their healthcare provider questionnaire, but no other GI symptoms were statistically different. Most patients found the questionnaire easy to understand. Significantly more children found the questionnaire with pictograms easier to understand compared to the questionnaire alone regarding the symptom of regurgitation although the patients in this comparative group was small.

This study did not demonstrate that pictograms significantly improve how children with FAP describe GI symptoms except in the setting of nausea and emesis. More work is needed here as pictograms used to determine GI symptoms would be very helpful in pediatric patients who cannot read or are too young to read.

de Bruijn C, Rexwinkel R, Vermeijden N, Hoffman I, Tack J, Benninga M. The Use of Pictograms in the Evaluation of Functional Abdominal Pain Disorders in Children. J Pediatr 2023; 263: 113647

Answers to this month's crossword puzzle:



Medications and the Risk of Eosinophilic Esophagitis in Children

Eosinophilic esophagitis (EoE) is common in children, and the increase in incidence worldwide suggests a need to determine risk factors. Since antibiotic and acid-suppression medication can affect the intestinal microbiome and gut permeability, the authors of this study evaluated the long-term effects of these two medication classes in pregnant mothers as well as in infants to see if such medications led to a subsequent increased risk of EoE.

This study used Danish health registry data to collect information on pediatric patients with EoE and their mothers as well as control patients and their mothers. The Danish National Prescription Registry was analyzed to assess prescription type, frequency, and date of use. This data was

combined with the Danish Medical Birth Register to determine pregnancy data. A total of 416 children with EoE (defined as ≤ 22 years of age at time of EoE diagnosis) was then compared 4160 age / sex-matched controls. The median age of patients with EoE was 11 years (range 6 – 15 years), and 68.8% of these patients were male. It was noted that most patients with EoE had a history of prematurity (11% versus 7.3%), were born by caesarean section (23.2% versus 19.6%) and had a history of newborn ICU admission (17.3% versus 10.2%).

The use of any antibiotic during a mother's pregnancy was associated with an increased risk of their child developing EoE (adjusted odds ratio 1.5; 95% CI, 1.2-1.9) with this risk increasing with an increased number of maternal antibiotic prescriptions. The most common antibiotics prescribed were beta-lactam antibiotics and penicillins. The risk of antibiotics causing a mother's child to have EoE was highest when used during the third trimester of pregnancy (adjusted odds ratio 1.5; 95% CI, 1.0-2.1). No such association was seen with single antibiotic use during the first or second trimester. This risk of EoE occurring in a patient who received antibiotics during infancy also was increased (adjusted odds ratio 1.4; 95% CI, 1.1-1.7), and the risk increased with an increased number of antibiotic prescriptions. Beta-lactam antibiotics and penicillins were the most commonly used prescriptions in these infants. Infants who received antibiotics closest to their birth date also had a higher risk for EoE (adjusted odds ratio 1.9; 95% CI, 1.1-3.1).

Similarly, use of maternal acid-suppression medication of any type during a mother's pregnancy increased the risk of EoE in their children (adjusted odds ratio 1.7; 95% CI, 1.0-2.8) with the risk increasing with an increasing number acid-suppression medication prescriptions. A similar risk for developing EoE was present in children who received acid-suppression medications during infancy (adjusted odds ratio 15.9; 95% CI, 9.1-27.7) with the risk increasing in children receiving more prescriptions for these medications. This risk was especially present in infants receiving proton pump inhibitors, in infants with a history of prematurity, and in infants who received such medications in late infancy (defined as 7 to 12 months of age) as opposed to early infancy (birth to 6 months of age).

This study is extremely important as it identifies potential risk factors for development of childhood EoE that may be preventable. Appropriate use of antibiotics and acid-suppression medication possibly could prevent EoE in specific scenarios. However, the increased use of acid-suppression medications in infants who went on to develop EoE in this study could have been due to early symptoms of not-yet diagnosed EoE.

Jensen E, Svane H, Erichsen R, Kurt G, Heide-Jorgensen U, Sorensen H, Dellon E. Maternal and Infant Antibiotic and Acid Suppressant Use and Risk of Eosinophilic Esophagitis. JAMA Pediatr 2023; 177: 1285-1293.

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