Dermatologic Complications in Pediatric Inflammatory Bowel Disease

Children with inflammatory bowel disease (IBD) can have associated dermatologic disease. Erythema nodosum (EN) and pyoderma gangrenosum (PG) are two such common skin lesions seen in this setting. The authors of this study attempted to determine rates of EN and PG in pediatric patients with IBD and evaluated for IBD complications in the setting of EN and PG.

This study was longitudinal and evaluated patient data from the international pediatric IBD registry, ImproveCareNow™. Deidentified patient data were evaluated to determine patient baseline characteristics as well as follow-up clinic visit characteristics, duration of IBD, presence of EN or PG, and other factors associated with IBD. The following disease activity scales also were used in this study: Physician Global Assessment (PGA), the short Pediatric Crohn's Disease Activity Index (PCDAI), and the Pediatric Ulcerative Colitis Activity Index (PUCAI). Patients were characterized as having Crohn's disease (CD), ulcerative colitis (UC), or indeterminate colitis (IC). It should be noted that IC also is known as Inflammatory Bowel Disease – Unclassified (IBD-U). Pediatric patients with IBD with associated EN or PG were compared to pediatric patients with IBD who had no skin manifestations.

A total of 285,913 clinic visits from 32,497 pediatric patients (≤ 21 years of age) were included in the study. A diagnosis of EN was made in 509 patients (401 CD, 90 UC, and 18 IC), and the rate of EN in this patient population was 1.57% (95% confidence interval (CI), 1.43-1.71%). A diagnosis of PG was made in 291 patients (203 CD, 67 UC, and 21 IC), and the rate of PG in this patient population was 0.90% (95% CI, 0.80-1.00%). Co-occurrence of EN and PG was present in 99 patients, and the rate of both diseases occurring simultaneously was 0.30% (95% CI, 0.25-0.37%). Most patients (90%) with simultaneous EN and PG had both diseases occurring during at least one clinic visit.

Significantly more patients with EN or PG were female compared to pediatric patients with IBD and no skin disease. There was no statistical difference between patients with IBD and EN or PG versus pediatric patients with IBD and no skin disease regardless of age, gender, or age of IBD diagnosis. Higher scoring (indicating worse disease) using the PGA, short PCDAI, and PUCAI was significantly increased in patients with associated EN and PG. Poor growth and nutrition were significantly associated with a higher rate of EN and PG while continuous disease remission was significantly associated with a reduced rate of EN and PG. A history of ileostomy or colostomy, peri-anal disease, uveitis, or arthritis was associated with a significantly increased risk of EN or PG. An elevated erythrocyte sedimentation rate (ESR), an elevated C-reactive protein level (CRP), and a reduced albumin level were all significantly associated with a higher risk of EN or PG while improving albumin levels at follow-up clinic visits significantly reduced the risk of having EN or PG. In terms of IBD treatment, only corticosteroid use was significantly associated with the presence of EN or PG. Multivariable analysis demonstrated that CD, high PGA score, arthritis, uveitis, elevated ESR, low albumin level, and corticosteroid use were associated with EN while a high PGA score, history of colectomy/colostomy/ileostomy, arthritis, uveitis, and low albumin level were associated with UC.

This study provides new information about the frequency of important dermatologic manifestations seen in pediatric IBD, specifically EN and PG. The authors have identified specific risk factors in the pediatric IBD population associated with EN and PG. Once EN and PG are identified in a pediatric patient with IBD, concern should be raised that the patient may have a more severe IBD phenotype.

Yousif M, Ritchey A, Mirea L, Patel A, Price H, O'Haver J, Montoya L, Gonzalez-Llanos L, Smith J, Zeblisky K, Pasternak B. The Association Between Erythema Nodosum and Pyoderma Gangrenosum and Pediatric Inflammatory Bowel Disease. J Pediatr Gastroenterol Nutr 2024; doi: 10.1002/jpn3.12370. Online ahead of print.

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Can Abnormal Weight be Associated with Child Maltreatment?

Pediatric gastroenterologists are in a unique position to address nutrition issues in children, while at the same time, discovering social challenges in families. The authors of this study determined if child maltreatment or exposure to intimate partner violence affected both childhood weight and diagnosis type.

This retrospective study occurred at a pediatric center specializing in child maltreatment, and data over a 3-year period were collected. Only children 17 years or younger with ICD-10 codes for child maltreatment were studied. Five types of child maltreatment were considered: physical, sexual, neglect, psychological/emotional, and exposure to intimate partner violence. Patients with neonatal abstinence syndrome or an organic disease that could affect weight were excluded. Patients were determined to be underweight, normal weight, overweight, or obese based on weight-for-length *z* scores if a child was under 24 months of age or based on body mass index (BMI) *z* scores if a child was equal to or older than 24 months of age.

A total of 855 subjects were included in the study, and the median age was 29 months (interquartile range 5-83 months). Normal weight classification was present in 59.4% of children while classifications of underweight, obese, and overweight was present in 15.3%, 12.9%, and 12.4%, respectively. All types of child maltreatment were significantly associated with all weight types. Patients with one type of child maltreatment were statistically younger while patients with more than one type of child maltreatment were statistically older. Neglect was the most common type of child maltreatment (68.7%), and neglect was significantly associated with children who were normal weight and underweight. Physical abuse (33.6% of children) was significantly lower in normal weight children. Sexual abuse (16.8%) increased significantly as patient weight increased and was most common in children characterized as obese. Psychological/emotional abuse (10.8%) was most common in children characterized as obese while children exposed to intimate partner violence (9.8%) were more likely to be characterized as overweight. Finally, having one category of child maltreatment was significantly associated with normal weight. The presence of more than one category of child maltreatment was associated with abnormal weight, but the association was not statistically significant.

This study provides a potential way to screen for risk factors for abuse in children by considering their weight, weight-for-length *z* score, or BMI *z* score, especially if the provider suspects child maltreatment is occurring. This study occurred at a single center in Pennsylvania, and more research is needed in other parts of the United States to see if such findings can be more universalized.

Esernio-Jenssen D, Morrobel A, Hansen S, Kincaid H. Exploring Associations Between Abnormal Weight Classifications and Child Maltreatment Diagnoses. Clin Pediatr 2024; 63: 1056-1061.