Erythema nodosum as a presentation of inflammatory bowel disease

This case was notable because the initial presentation of Crohn’s disease consisted only of extraintestinal manifestations. This is uncommon, and the vast majority of children will present with the typical combination of abdominal pain, diarrhea and weight loss with or without extraintestinal manifestations (Box 1). Extraintestinal manifestations occur in about 25%–35% of cases of inflammatory bowel disease and may antedate any bowel symptoms, and they typically involve the musculoskeletal system (causing peripheral arthritis and spondyloarthropathy), skin, eyes (iritis and episcleritis) and hepatobiliary system. Arthritis and eye symptoms tend to correlate with intestinal inflammation and to resolve with treatment of the underlying bowel disease, whereas hepatobiliary disease correlates less well with intestinal disease activity. Erythema nodosum is the most common skin manifestation, occurring in about 10%–15% of people with inflammatory bowel disease, particularly those with Crohn’s disease.

Erythema nodosum is an inflammatory process involving the subcutaneous fat lobules that causes tender, erythematous nodules that are usually seen symmetrically on the extensor surfaces of the lower extremities. Biopsy of a lesion typically shows fat necrosis or panniculitis (inflammation of the superficial fascia causing subcutaneous induration). Erythema nodosum is the most common form of panniculitis. It...
is an immunologic response to a variety of different antigens, with the underlying causes dependent on the population and geographic location.

Among children in developed countries, infections (predominantly streptococcal and Epstein-Barr virus infections) and inflammatory bowel disease are the most common causes of erythema nodosum. Tuberculosis has been found to be the most common association in areas where the disease is endemic. Other causes include reactions to drugs (e.g., sulfonamides), sarcoidosis, connective tissue disorders and malignant diseases (e.g., lymphoma). In up to 60% of cases, no underlying cause is found (Box 2).

The differential diagnosis of erythema nodosum includes erythema induratum, which typically affects adolescent and postmenopausal women and often produces ulcerative lesions on the calves; factitial panniculitis caused by self-inflicted trauma or injections; and lesions associated with pancreatic disease, α1-antitrypsin deficiency and lupus. Pyoderma gangrenosum, another dermatologic lesion associated with inflammatory bowel disease, differs from erythema nodosum because of its characteristic painful pustules and ulcers. Erythema nodosum generally resolves with treatment of the underlying condition or can resolve spontaneously in idiopathic cases.

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