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Gastrointestinal Radiology

Pseudolymphoma of Colon

Farooq P. Agha,[1] Richard F. Cooper,[1] William E. Strodel,[2] Frederick E. Eckhauser,[2] and Lee Weatherbee[3]

Departments of [1]Radiology, [2] Surgery, and [3] Pathology, University of Michigan and Veterans Administration Medical Center, Ann Arbor, Michigan, USA

Abstract. A case of pseudolymphoma of the colon is reported. Radiographically and endoscopically the lesion could not be conclusively distinguished from malignant neoplasm, particularly lymphoma or segmental colitis, thus necessitating right hemicolectomy. Careful histological examination established the diagnosis of pseudolymphoma with pathologic features identical to the focal form of pseudolymphoma more commonly observed in the stomach.

Key words: Colon – Pseudolymphoma.

The benign behavior of certain lymphoproliferative disorders involving the alimentary tract has been recognized for many years [1–3]. The common sites involved by pseudolymphoma are skin, gastrointestinal tract including gallbladder, lung, orbit, breast, larynx, and meninges. The stomach is the most common site of involvement in the gastrointestinal tract [4–16]. Circumscribed involvement of the colon is rare: to date only 18 cases have been reported [9, 13, 15, 17–19]. The rectum has been known to be involved by lymphoid polyps and lymphoproliferative lesions more than other parts of the colon [13, 15]. Ranchod et al. [13] in a critical review recognized 4 clinical pathological groups of lymphoproliferative disorders of the gastrointestinal tract:

1. Focal lymphoid hyperplasia of the stomach (pseudolymphoma).
2. Focal lymphoid hyperplasia of the small intestine (pseudolymphoma).
3. Focal lymphoid hyperplasia of the rectum (lymphoid polyps of the rectum).
4. Nodular lymphoid hyperplasia of the intestine associated with dysgammaglobulinemia.

The present case appears morphologically most closely related to the cases of gastric pseudolymphoma reported in the literature rather than to the lymphoid rectal polyps (pseudolymphoma of the rectum).

Address reprint requests to: Farooq P. Agha, M.D., Department of Radiology, University of Michigan Hospital, Ann Arbor, MI 48109, USA

Case Report

A 45-year-old black retired radar operator was admitted because of intermittent abdominal cramps of 12 days duration. He had lost 10 lbs. during the preceding year but complained of no diarrhea, hematochezia, melena, hematemesis, change in bowel habit, nausea, vomiting, fever, night sweats, or chest

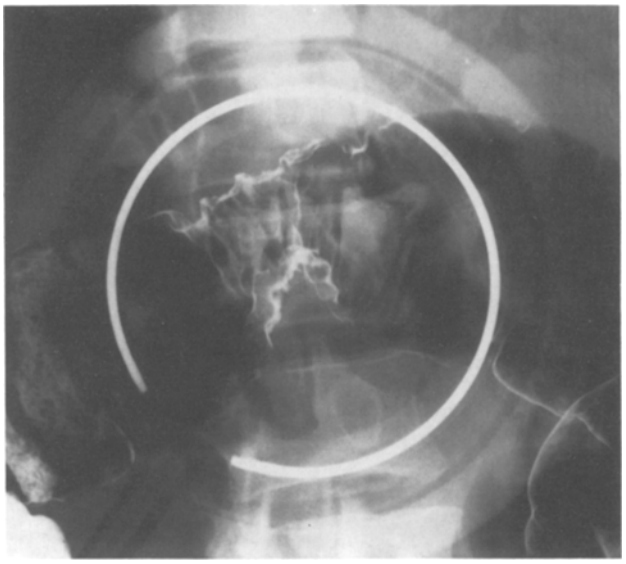

Fig. 1. A double-contrast colon examination reveals an irregular area of narrowing measuring 3 cm in the proximal transverse colon with mucosal nodularity and rigidity. No overhanging margins are identified

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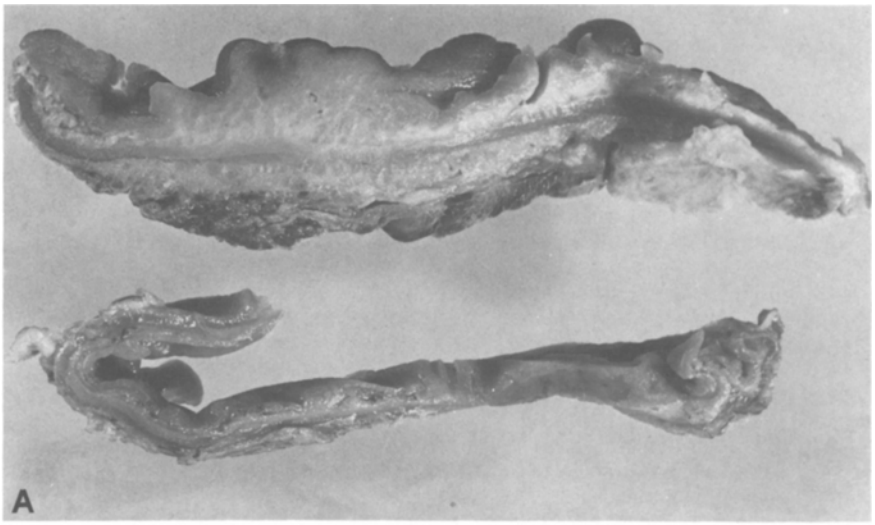

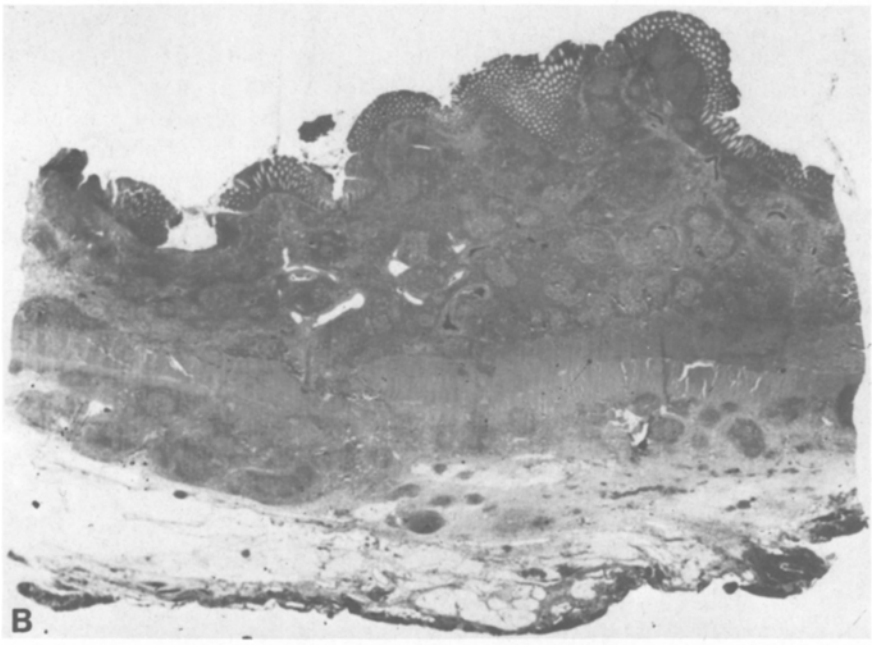

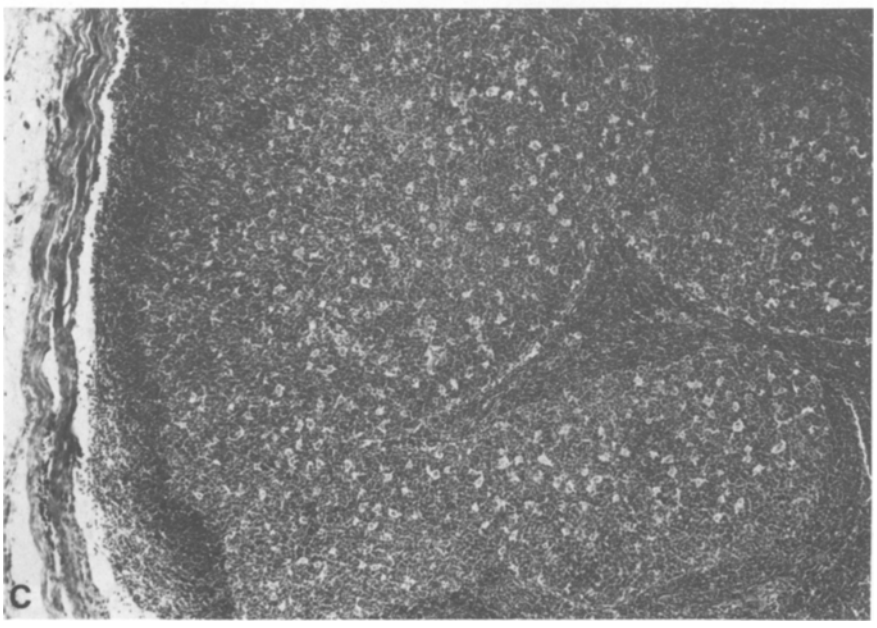

Fig. 2. A Gross specimen of the transverse colon showing a 3×3 cm indurated raised lesion involving the submucosa and muscularis. Several 0.5 cm mucosal ulcerations are present on the surface of the indurated mass. Adjacent mucosa appears normal. Lower specimen showing normal ajdacent part of the colon. **B** Lower power histologic section of colon exhibiting transmural proliferation of mixed inflammatory cells containing large nodules of lymphocytes with follicular pattern and prominent germinal centers surrounded by numerous eosinophils, plasma cells, and histiocytes. (H&E, $\times 28.5$) **C** High-power histologic section showing clear delineation of germinal centers from adjacent lymphocytes. Note prominent phagocytosis, hyperplasia of lymphoid follicles, and no evidence of neoplasia. (H&E, $\times 305$)

pain. At age 22 years a diagnosis of sarcoidosis was made on the basis of infiltrates on chest radiograph and scalene node biopsy. When seen in 1976, he showed no evidence of active sarcoidosis or tuberculosis.

On physical examination, a slender, well-built black man was noted to be in no acute distress. Blood pressure was 130/80 mm Hg. A grade 2/6 systolic ejection murmur was present. There was no hepatosplenomegaly. Stools were negative for occult blood on 4 occasions. Chest radiograph revealed no active disease. The laboratory data revealed microcytic anemia [hemoglobin 13.4 g, hematocrit 38.2, iron 59 mg, and total iron binding capacity (TIBC) 240], and bone marrow aspirate revealed decreased iron stores. There was no evidence of sickle cell disease or trait. Immunoglobulin levels of IgA, IgG, and IgM were normal.

Upper gastrointestinal series was normal. A double-contrast barium enema examination disclosed a persistent nonobstructing area of irregular narrowing in the proximal transverse colon with some mucosal nodularity, rigidity, but no focal ulcerations (Fig. 1). The principal considerations were segmental colitis, carcinoma, and lymphosarcoma. Colonoscopy revealed a 5 cm long area of nodularity in the transverse colon. The firm, rigid nature of the lesion on endoscopy was highly suspicious of a malignant tumor. Biopsies revealed only chronic inflammation with no evidence of neoplasia. Few eosinophils were seen in the biopsy. In order to exclude malignancy, the patient underwent abdominal exploration. A firm mass in the proximal transverse colon was noted. The liver was normal on palpation. No abnormalities were noted in the small bowel. Large regional mesocolic lymph nodes were removed en bloc with the resected specimen for pathologic examination. The clinical impression at surgery was of a malignant tumor; therefore, right hemicolectomy with ileotransverse colostomy was performed.

Gross examination of the resected specimen revealed a 3×3 cm sessile lesion with several minute mucosal ulcerations (Fig. 2A) and replacement of the submucosa and muscularis by firm white tissue. The largest of 52 lymph nodes measured $3 \times 2 \times 1$ cm. Microscopic examination revealed a transmural infiltration of mixed inflammatory cells containing large nodules of lymphocytes with germinal centers surrounded by numerous eosinophils, plasma cells, and histiocytes (Fig. 2B and C). Occasional granulomas were seen, and several small mucosal ulcers were present with granulation tissue at their bases. There was no evidence of ulcerative colitis, granulomatous colitis, lymphosarcoma, or carcinoma. The final pathologic diagnosis was consistent with pseudolymphoma of the colon. The regional lymph nodes exhibited only reactive hyperplasia.

The patient's clinical course was complicated by a minor stroke, but he improved gradually over several weeks. During a subsequent readmission he was noted to have a microangiopathic hemolytic type of anemia with thrombocytopenia. Stool was hemoccult negative. One year follow-up reveals no evidence of recurrence of pseudolymphoma.

Discussion

Pseudolymphoma was first recognized in 1958 by Smith and Helwig [2] as a pathologic entity separate from malignant lymphoma. This was subsequently supported by several case reports as various authors reviewed their patients with lymphoma who survived for a long period without evidence of disease [4, 7, 13, 15, 21]. The criteria first proposed by Smith and Helwig [2] in 1958 and later supported by Jacobs [3] and Ming [20] include:

1. Polymorphous cellular infiltrate, particularly plasma cells and eosinophils.
2. Reactive germinal centers away from the ulcer.
3. Submucosal or transmural fibroblastic reaction.
4. Regional lymph nodes showing reactive lymphoid proliferation with no evidence of lymphosarcoma.

The histologic importance of argyrophilic fibers has also been recently reported by Stern and Tschikunowa [21]. Attempts are being made to develop immunologic criteria to distinguish lymphoma from reactive hyperplasia [12]. Saraga et al. [15] in reviewing 20 cases of pseudolymphomas of the gastrointestinal tract found large bowel involvement in 7 cases. The rectum was the site of involvement in all the cases of pseudolymphoma presenting as polypoid lesions. Single rectal polyps occurred in 3 cases and multiple small polyps measuring 0.5–2 cm in diameter occurred in 2 cases. In 2 additional patients small micropolyps covered the entire rectal mucosa.

The focal nature of the lesion in the present case as well as the pathological features resemble cases of gastric pseudolymphoma more than other types with nodular lymphoid hyperplasia of the intestine or lymphoid polyps of the rectum. The classification of pseudolymphoma remains obscure, but various authors regard it as an intermediate entity between neoplasm and inflammation [14–16, 20].

Radiographically these lesions have been characterized by narrowing of the lumen, slight nodularity, and rigidity, which could not be distinguished from that caused by malignant lymphoma, segmental inflammatory bowel disease such as Crohn's disease, or even metastatic neoplasm to the bowel [22]. In the 2 cases reported by Khouri et al. [17], a similar dilemma was encountered; although in their cases, the clinical features appeared to support benign entities. In our case, the relationship of antecedent sarcoidosis and later development of microangiopathic anemia with thrombotic thrombocytopenic purpura remains poorly understood, although there was no evidence of dysgammaglobulinemia at the time of admission.

Although an accurate diagnosis of pseudolymphoma can rarely be established preoperatively, one case of gastric pseudolymphoma carefully followed for 11 years had a favorable outcome without radical surgery [23]. Only careful histologic

examination of the resected specimen can provide the definitive diagnosis. Gastric pseudolymphoma seems prone to cause complications related to peptic ulceration. In contrast, the colonic lesion cited in the present case was associated with minute ulcerations, which did not pose a threat to the patient.

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