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CASE REPORT | COLON

Ileocecal IgG4-Related Disease: A Case Report Mimicking Malignancy

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ABSTRACT

Immunoglobulin G4-related disease (IgG4-RD) is a chronic mass-forming inflammatory disease characterized by fibroblastic proliferation and mixed inflammatory cell infiltration. IgG4-RD can involve one or multiple organs, and the most commonly affected organs include the pancreas, salivary glands, and the orbit. We present a case of a 66-year-old man, with a history of sarcoidosis, who presented with an obstructing ileocecal mass highly suspicious for malignancy. After surgical resection and pathological and serological evaluation, a diagnosis of IgG4-RD was rendered. In the absence of other manifestations, preoperative diagnosis is challenging, and IgG4-RD may continue to be a diagnostic pitfall.

INTRODUCTION

Immunoglobulin G4-related disease (IgG4-RD) is a chronic mass-forming inflammatory disease characterized by fibrosis and inflammatory cell infiltration. The most common organs involved are the pancreas and salivary glands, with clinical manifestations varying depending on the organ involved.[1] IgG4-related pancreatitis often presents as a painless mass or obstructive jaundice, whereas IgG4-RD of the salivary gland often presents with parotid or lacrimal gland enlargement.

The diagnosis of IgG4-RD rests on a combination of clinical and histopathological features, including serum IgG4 levels elevated above the upper limit of normal.[2] Key histopathologic findings include a dense lymphoplasmacytic infiltrate, a storiform pattern of fibrosis, and obliterative phlebitis. An initial therapeutic response to glucocorticoid therapy is often a hallmark of IgG4-RD.[3] Because of the tendency to form mass lesions, IgG4-RD may mimic malignancy in some instances.

CASE REPORT

A 66-year-old man presented to the emergency department with a 9-day history of abdominal fullness, a 3-day history of obstipation, and night sweats lasting longer than 1 month. Prior to this episode, he did not have a history of bowel obstruction or symptoms of obstruction. His vital signs were normal. The patient's past medical history was pertinent for sarcoidosis confirmed with transbronchial biopsy 12 years prior. Blood tests, including a complete blood count and differential, electrolytes, liver enzymes, and lactate, were all within normal limits. On imaging, multiple air-fluid levels consistent with obstruction and a 6.1-cm ileocecal mass with adjacent pericolonic lymph nodes measuring up to 2 cm were identified (Figure 1).

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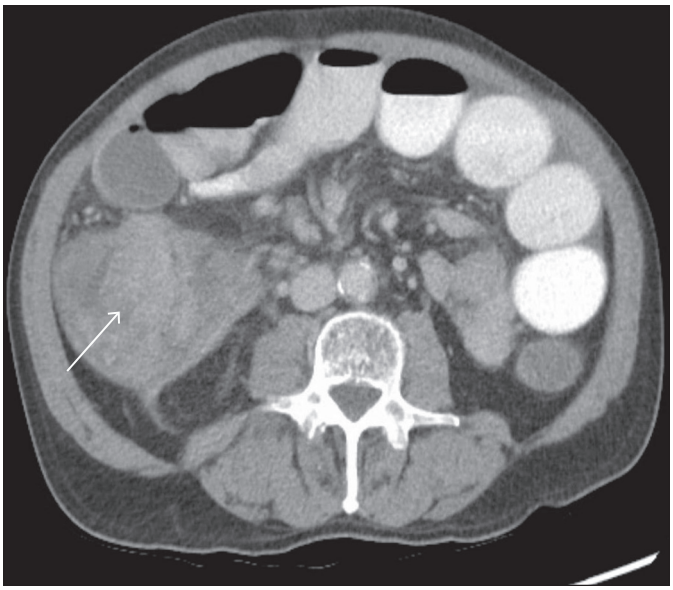

Figure 1. Abdominal and pelvic axial computed tomography (CT) with contrast showing the cecal mass (arrow) causing obstruction and multiple fluid-filled small bowel loops.

The initial clinical and radiological findings were highly suggestive of malignancy. Lymphoma and adenocarcinoma were included in the differential diagnosis. Given that the patient presented with an acute obstructing colonic mass, the decision was made to proceed directly to surgery instead of performing endoscopy beforehand.

A right hemicolectomy was performed. Intraoperative findings included a firm ileocecal mass adherent to the retroperitoneum, but not involving it. Enlarged lymph nodes raised the suspicion of malignancy. Furthermore, the small bowel was significantly dilated. Gross examination revealed an ill-defined, 8-cm mass extending from the cecum to the region of the ileocecal valve and terminal ileum.

Histologic sections from the mass showed lymphoplasmacytic infiltrates with scattered eosinophils and storiform fibrosis in the subserosa extending into the submucosa (Figure 2). Immunohistochemistry staining revealed an increased IgG4/IgG ratio with up to 60 IgG4-positive plasma cells per high-power field (Figure 3). Elastin stains highlighted residual venous elastic lamina, confirming obliterative phlebitis (not shown). No malignancy was identified. Serum IgG4 was not ordered preoperatively; however, the serum IgG4 postoperatively was elevated at 190 mg/dL (normal range, 6–121 mg/dL) and remains elevated at 128 mg/dL 19 months postoperatively.

Postoperatively, colonoscopy and upper gastrointestinal (GI) endoscopy revealed no significant findings. The patient is being followed by a rheumatologist with no symptoms of active IgG4-RD. Follow-up computed tomography (CT) showed no evidence of other intraabdominal manifestations of IgG4-RD. Positron emission tomography with ^{18}F-fluorodeoxyglucose revealed hilar lymphadenopathy in keeping with pulmonary sarcoidosis. Furthermore, there was no indication to initiate any form of immunosuppressive therapy for the management of his sarcoidosis or IgG4-RD. He was asymptomatic at the most recent follow-up, 20 months postoperatively, and his serum IgG4 levels are being monitored regularly.

DISCUSSION

Luminal GI involvement is a rare manifestation of IgG4-RD. In a Japanese study of 235 histology-proven IgG4-RD cases, the most common organ involved is the pancreas, followed by the salivary gland, kidney, orbit, and periaortic tissue (periaortitis).[1] Colonic IgG4-RD is rare, with 2 cases of solitary IgG4-RD at the sigmoid colon and cecum reported and one report of IgG4-RD of the ileocecal region.[4,5] There are no reported cases of colonic IgG4-RD in association with sarcoidosis.

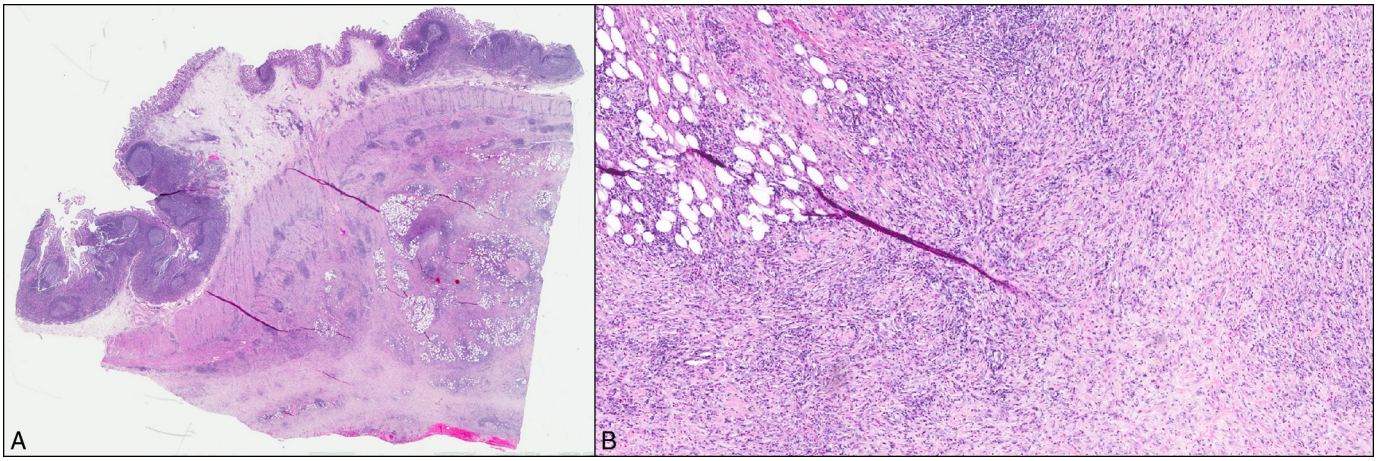

Figure 2. Hematoxylin and eosin staining of terminal ileum showing (A) lymphoid infiltration and fibrosis in the subserosa and (B) storiform pattern of fibrosis in the subserosa.

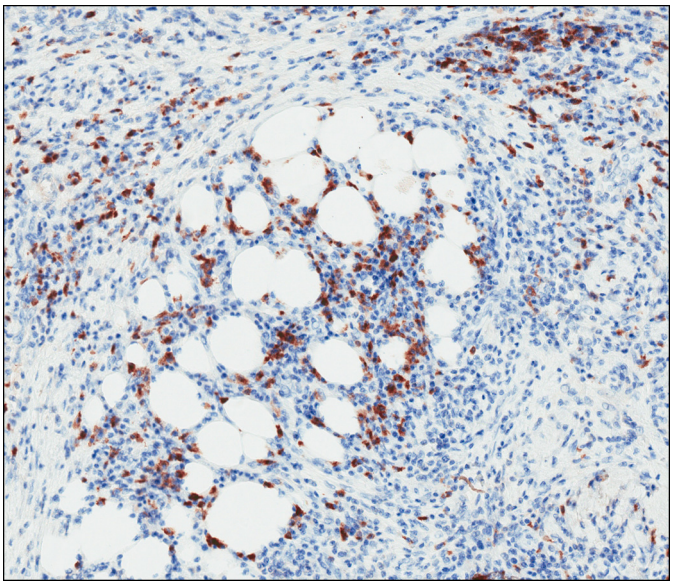

Figure 3. Immunohistochemical staining showing IgG4-positive plasma cells.

In terms of the clinical manifestation of GI luminal IgG4-RD, symptoms vary. Cases of esophageal IgG4-RD have been described, presenting with progressive dysphagia and weight loss, often mimicking malignancy and other disease processes.[6,7] Gastric IgG4-RD cases have manifested as epigastric pain and flatulence, gastric wall thickening, anorexia, nausea, and abdominal discomfort.[8-10] In pancreatic IgG4-RD, also referred to as type 1 autoimmune pancreatitis, patients tend to present with obstructive jaundice secondary to pancreatic head enlargement or thickening of the lower bile duct.[11]

According to an international consensus statement on the pathology of IgG4-RD, the 3 major histopathological features of IgG4-RD include a dense lymphoplasmacytic infiltrate, storiform fibrosis, and obliterative phlebitis.[2] An increased number of eosinophils is another histopathological feature associated with IgG4-RD.[2] Our case meets all 3 major histopathological features, and the prominent presence of eosinophils further supports the diagnosis of IgG4-RD.

In our case, the patient's obstructing GI mass was hypothesized to be malignant in etiology. However, it is important to consider IgG4-RD in the differential diagnosis of an obstructing GI mass to help guide clinical management. If a preoperative diagnosis of IgG4-RD is made, a patient can potentially be treated with steroids to preclude the need for surgery. Preoperative biopsy of the mass may help in the diagnosis of IgG4-RD. However, it is difficult to obtain a diagnostic biopsy given that the pathology may be subserosal. Nonetheless, there are reported cases in which the diagnosis of IgG4-RD has been made preoperatively based on endoscopic biopsy (e.g., IgG4-related gastric ulcer, IgG4-related small intestinal lesions).[12,13] The caveat, in our case, is that surgical resection was still necessary to relieve GI obstruction.

IgG4-RD can manifest in various ways, including obstruction in the GI tract and an abdominal mass mimicking malignancy. It is important to consider IgG4-RD in the differential diagnosis of an obstructive GI mass, especially if the patient has other manifestations of IgG4-RD. In the absence of other manifestations, preoperative diagnosis is challenging, and IgG4-RD of the colon may continue to be a diagnostic pitfall.

DISCLOSURES

Author contributions: A. Akbari wrote the manuscript. M. Carruthers revised the manuscript. L. Lee provided the images, edited the article, and is the article guarantor.

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