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CASE REPORT

Monomorphic Epitheliotropic Intestinal T cell Lymphoma: a Rare Cause of Chronic Diarrhea

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Introduction

Chronic diarrhea is a frustrating and sometimes difficult diagnosis for patients and physicians alike. The etiology is vast and variable. Periodically, numerous studies are required to arrive at a diagnosis. Monomorphic epitheliotropic intestinal T cell lymphoma (MEITL) is a rare and aggressive form of lymphoma that can occur throughout the gastrointestinal tract. Symptoms are variable but can include fever, abdominal pain, weight loss, diarrhea, obstruction, and perforation [1]. Prognosis is poor, and treatment usually consists of surgery, chemotherapy, or stem cell transplantation. We present a case of voluminous chronic diarrhea in an African-American male with associated weight loss due to MEITL.

Case Report

A 62-year-old African-American male with a history of hypertension, seizures, and schizophrenia was admitted for hypovolemic shock secondary to severe chronic diarrhea. He was initially hypotensive on admission requiring aggressive intravenous fluid resuscitation, initiation of vasopressors, and transfer to the intensive care unit. On exam, he was cachectic with mild diffuse abdominal tenderness to palpation. His initial laboratory values were remarkable for a potassium of 2.9 mmol/L, bicarbonate of 19 mmol/L, and albumin of 1.6 g/dL.

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He reported 8–10 watery bowel movements daily for 1 year and lost over 100 pounds unintentionally. He was admitted to various hospitals multiple times but a definitive diagnosis was never reached. Computed tomography (CT) of the abdomen 7 months prior to presentation was unremarkable. Esophagogastroduodenoscopy (EGD) with gastric biopsies at that time was also normal; however, no duodenal biopsies were done. A colonoscopy 4 months before presentation with random biopsies was negative. Stool culture performed then was positive for *Aeromonas*, which was treated with trimethoprim/sulfamethoxazole for 2 weeks with marginal clinical improvement.

Stool studies obtained during the current admission included *Clostridium difficile* polymerase chain reaction, fecal culture (for *Salmonella*, *Shigella*, *Campylobacter*, and *Escherichia coli* 0157:H7), *Giardia* and *Cryptosporidium* antigen, microsporidia-modified trichrome stain, and fecal calprotectin, all of which were unremarkable. Additionally, thyroid stimulating hormone, *Strongyloides* antibody, HIV, celiac panel, vasoactive intestinal peptide, and 24-h urine 5-hydroxyindoleacetic acid were normal. Twenty-four-hour fecal fat was elevated, and the stool osmolar gap was indicative of secretory diarrhea. CT of the abdomen and pelvis revealed diffuse small bowel wall thickening, and the colon and small bowel were distended with fluid. Push enteroscopy with jejunal biopsies and colonoscopy were performed, both of which were endoscopically normal (Fig. 1). Jejunal biopsy specimens revealed extensive lymphoid infiltrate in the glandular epithelium with minimal involvement in the lamina propria, consistent with MEITL (Fig. 2). Immunohistochemistry studies were positive for CD3 and CD56 (Figs. 3 and 4). CD8 positivity was also noted. The stains were negative for CD30, EBER, and cytokeratin AE1/AE3. He was determined to have a poor prognosis and was considered an unsuitable candidate for chemotherapy. The patient decided to forgo chemotherapy and pursue comfort care. He passed away 1 month later.

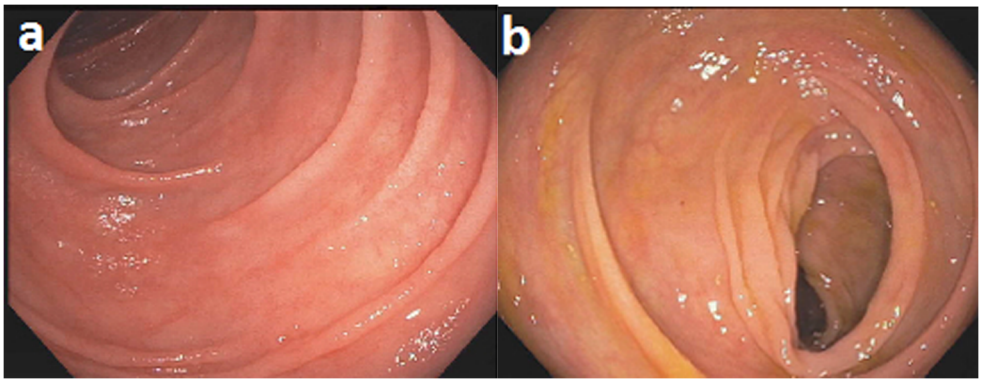

Fig. 1 Normal endoscopic examination of the proximal **a** small bowel and **b** colon

Discussion

Enteropathy-associated T cell lymphoma (EATL) consists of less than 5% of all gastrointestinal lymphomas and less than 1% of all non-Hodgkin's lymphomas [2]. Formerly, it was classified as type I (associated with celiac disease) and type II (not associated with celiac disease) [3]. Type II has recently been recognized as its own distinct entity and is now referred to as MEITL [4]. Type I is predominantly seen in the USA and Europe. Type II (MEITL) is less common and seen only in 10–20% of cases in Western populations but is the primary subtype in Asia [1, 5, 6]. MEITL is principally seen in males with a mean age of 60 and found in the small intestine [1].

Establishing a diagnosis of MEITL can be difficult due to its nonspecific symptoms. These include abdominal pain, bowel perforation, diarrhea, weight loss, and distension [1]. Most cases have endoscopic findings of circumferential ulcerations with edematous and granular mucosa in the small bowel or colon [7–9]. Due to nonspecific symptoms, diagnosis is usually based on histopathology and immunohistochemistry from biopsies obtained during endoscopy or after surgical resection secondary to obstruction or perforation [1, 10].

Histology shows evidence of small and medium-sized monomorphic lymphoid cells with atypical morphology and intraepithelial infiltration [7, 11]. On immunohistochemistry, the tumor cells express CD 3, CD 7, CD 8, CD 56, and TCRβ, but have shown variability in studies [2, 7].

Although there is currently no standard therapy, most treatments consist of surgical resection followed by anthracycline-based chemotherapy. The role of surgery typically consists of tumor resection or debulking to decrease the possibility of obstruction or perforation [10]. It is commonly treated with the CHOP chemotherapy regimen (cyclophosphamide, doxorubicin, vincristine, and prednisone) [10, 11]. Combined surgery and chemotherapy is considered superior to surgery alone; however, even with current therapeutic regimens, relapse and mortality rates are both nearly 80% [2, 10]. Autologous stem cell transplantation can also be considered in patients following

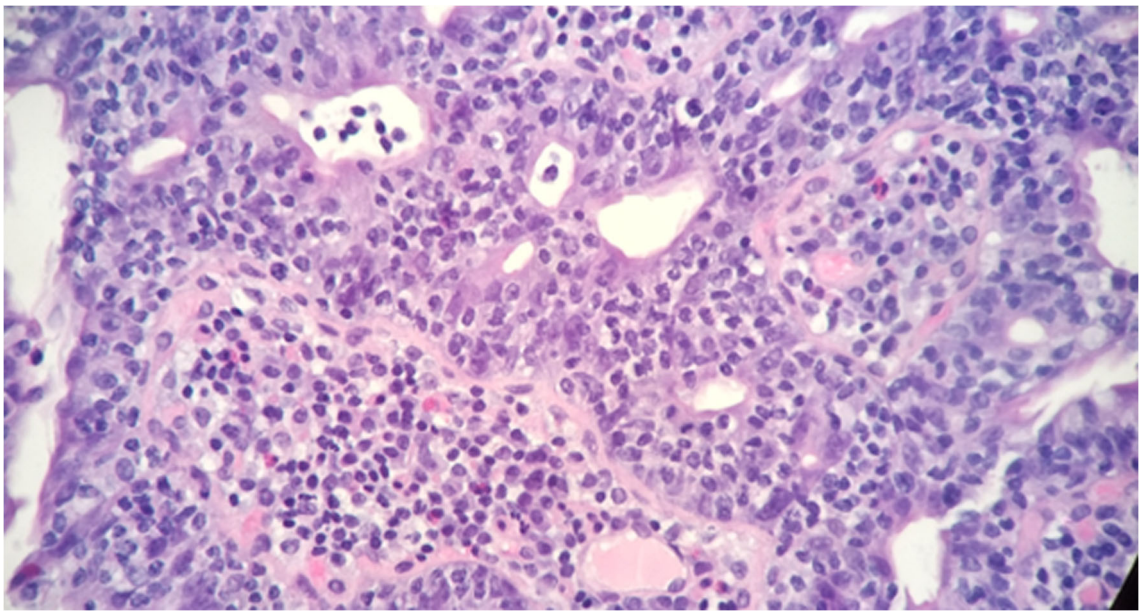

Fig. 2 Jejunal biopsy with extensive lymphoid infiltrate in the glandular epithelium

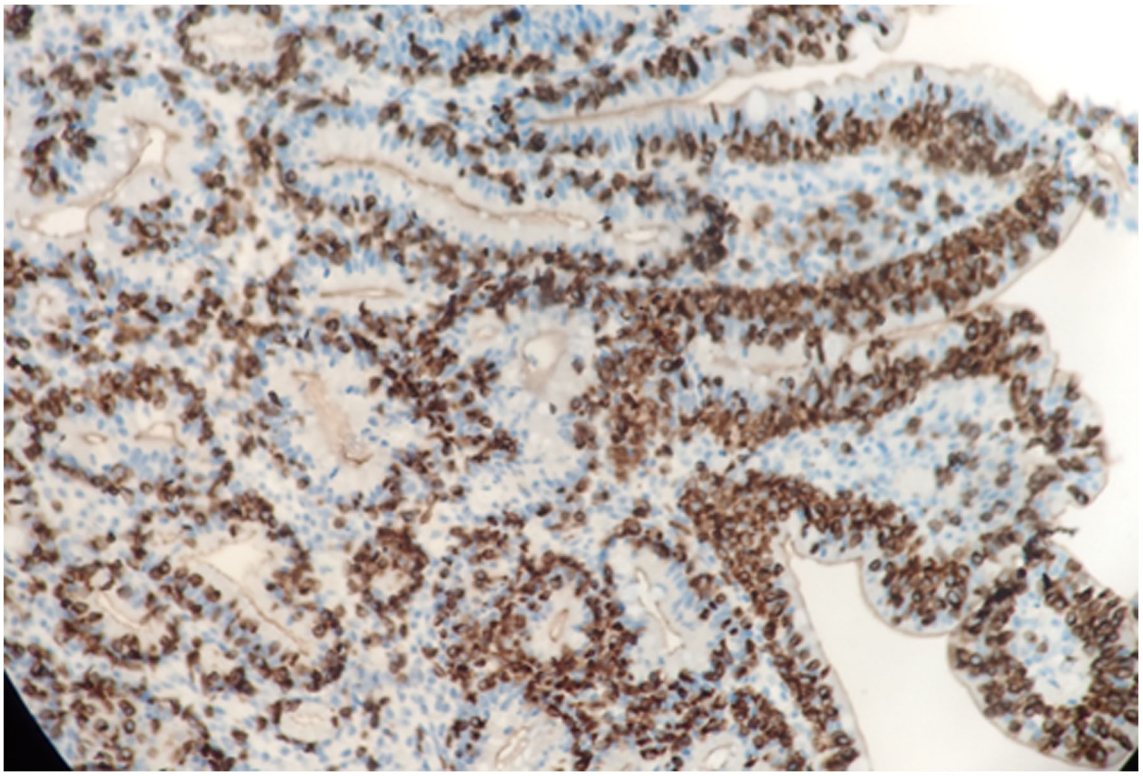

Fig. 3 CD 3 stain revealing extensive intraepithelial lymphocytosis

high-dose chemotherapy [10, 12]. Those who are unable to tolerate treatment due to malnutrition should undergo discussions regarding goals of care. MEITL is considered a very aggressive form of lymphoma with a median survival of only 7 months [11]. Further studies and standardized treatments are needed to better care for these patients.

Our case reveals that the etiology of chronic diarrhea is indeed extensive and MEITL should be considered in the differential diagnosis. A high index of clinical suspicion needs to be maintained, and endoscopic evaluation with biopsies should be pursued once this diagnosis is suspected.

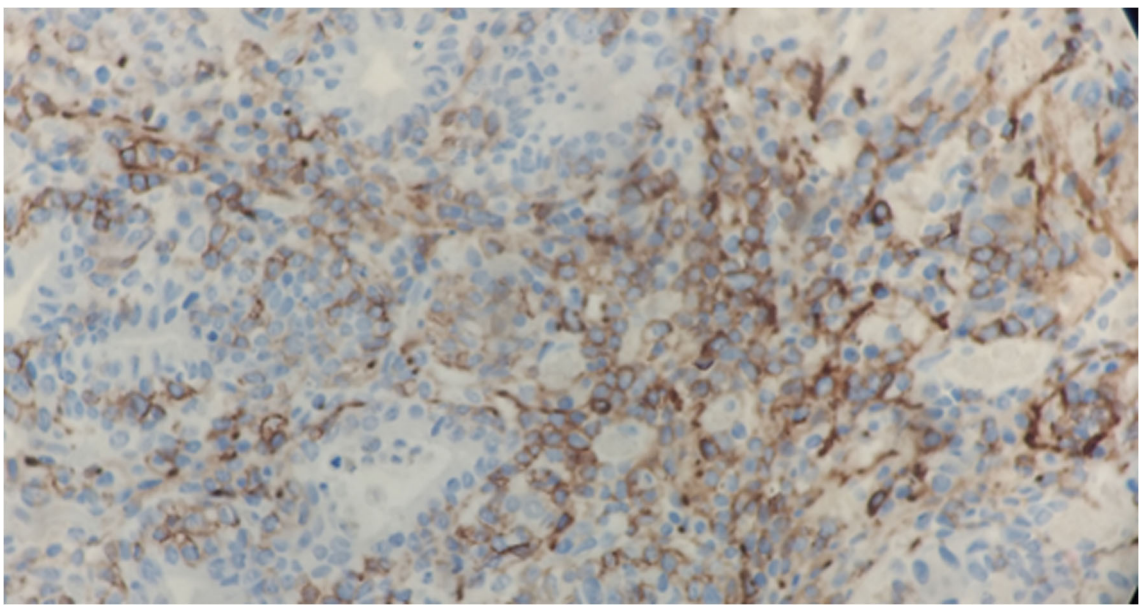

Fig. 4 CD 56 stain positivity which is seen in 73% of cases

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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