Short Communication

Cytomegalovirus-Associated Pseudotumor Simulating Gastric Malignancy in Acquired Immunodeficiency Syndrome: A Case Report with Review of Literature

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SUMMARY: We present a case of cytomegalovirus (CMV)-induced pseudotumor of the gastric antrum. Although affliction of the entire gastrointestinal tract with CMV has been described, localization to the stomach and especially the gastric antrum is rare. Kaposi’s sarcoma and non-Hodgkin’s lymphoma are recognized causes of bowel thickening and obstruction in patients with AIDS, but CMV is an extremely rare cause, with only four cases of CMV-induced pseudotumor reported in the English literature. As the duration of opportunistic infections and length of survival of patients with AIDS increase, CMV pseudotumors are not likely to remain unique. This mass lesion should be included in the differential diagnosis of AIDS patients, along with Kaposi’s sarcoma and non-Hodgkin’s lymphoma.

Cytomegalovirus (CMV) causes a wide spectrum of disorders in immunocompetent and immunocompromised patients (1). Enteric CMV infection was described in 1925, but it has become more relevant with the increase of immunocompromised hosts and occurrence of HIV infection (2). Although affliction of the entire gastrointestinal tract with CMV has been described, localization to the stomach, especially the gastric antrum, is rare (3). Kaposi’s sarcoma and non-Hodgkin’s lymphoma are recognized causes of bowel thickening and obstruction in patients with AIDS, but CMV is an extremely rare cause, with only four cases of CMV-associated pseudotumor of the stomach and small bowel reported in the English literature (1,2,4,5). However, six cases of colonic pseudotumor have been described: three patients had underlying HIV infection (5,6), two were non-immunosuppressed (7), one was heart transplant patient (8), one had common variable immunodeficiency syndrome (9) and one had chronic renal failure (10). We present a case of CMV-associated pseudotumor of the gastric antrum.

A 49-year-old male patient, a truck driver by occupation, presented in the surgical outpatient department with a 1-month history of epigastric discomfort, loose stools, painful perianal swelling, productive cough, marked loss of appetite and loss of weight. Physical examination revealed fever, oral thrush, lean muscle mass and a soft abdomen with vague tenderness in the upper left quadrant, but no abdominal mass was palpable. There was a perianal abscess which was fluctuant with local tenderness. The rest of the examination was unremarkable. Laboratory investigations were within normal limits. Chest X-ray, ultrasound examination of the abdomen and a computerized tomography scan of the abdomen and pelvis were noncontributory.

The perianal abscess was drained, and the patient was started on antibiotics and antifungal drugs. Upper gastrointestinal endoscopy showed candidal esophagitis and distortion of the gastric folds in the body and antrum with flat ulcerative lesions. Histopathological examination of a small endoscopic biopsy showed marked architectural distortion and nuclear pleomorphism of gastric glands and thus was reported as gastric adenocarcinoma.

Subsequently surgery was performed on this patient, and peroperatively an antral mass (5 × 3 cm) was noted. Subtotal gastrectomy with Roux-en-Y gastrojejunostomy was done. Grossly, the gastrectomy specimen measured 18 × 7 × 2.5 cm. When the mass was cut open, a growth measuring 5 × 3 × 1.5 cm was seen 3 cm from the distal resection limit in the antral region (Fig. 1). The overlying mucosa was flattened, with focal areas of congestion. Histological examination showed ulcerated gastric mucosa lined by granulation tissue. Gastric epithelial cells as well as vascular endothelial cells showed intra-nuclear inclusions of CMV (Fig. 2), and hence the tumor was diagnosed as a CMV-associated pseudotumor. In addition, Cryptosporidia was present on the brush border of gastric and duodenal epithelium cells. Gastric glands adjacent to the ulcer surface showed disorganization, stratification and reactive atypia of lining epithelial cells. The

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Fig. 1. Photomicrograph showing an infiltrative growth in antral region (arrow), 3 cm from distal resection limit. Gastric antral folds are also seen in the figure.
present with widely diverse symptoms and signs, including
synergistic (11,12). Gastrointestinal CMV infection may
nation, although there is no specific evidence that the two are
known to involve esophageal, gastrodoudenal, colonic and
mission was withheld by the patient’s relatives.
The gastrointestinal tract is a frequent site of CMV infec-
tion and, although there is no specific evidence that the two are
known to involve esophageal, gastrodoudenal, colonic and
mission was withheld by the patient’s relatives.
Although gastrointestinal manifestations are common in
CMV infection, laparatomy is performed only in about 4% of
these cases (14). To our knowledge, four case reports of
inflammatory pseudotumor of the stomach and small bowel
have been reported. In one case, the CMV pseudotumor
presented as a small bowel obstruction (2), while another
patient had a mass lesion in the gastric fundus (5). Two cases
of nonobstructing antral mass have also been described (1,4).
An open biopsy done in a patient with a nonobstructing antral
mass revealed an infiltrate of predominantly mononuclear
cells, oedema and numerous stromal and epithelial cells with
CMV inclusion bodies. The similarity in histology between
this case from literature and our case affirms that severe CMV
infection can produce pseudotumor in the alimentary tract (4).
As the duration of opportunistic infections and length of
survival of patients with AIDS increase, CMV-associated
pseudotumors are not likely to remain unique. This mass
lesion should be included in the differential diagnosis of AIDS
patients, along with Kaposi’s sarcoma and non-Hodgkin’s
lymphoma.

REFERENCES
ance of cytomegalovirus esophagitis and gastritis in AIDS patients. Am.
J. Gastroenterol., 88, 1108-1111.
pseudotumor presenting as bowel obstruction in a patient with acquired
involving gastric antrum in immunocompromised hosts: a report of 5
cases. Indian J. Gastroenterol., 24, 258-260.
antral mass caused by cytomegalovirus infection a patient with acquired
intestinal mass lesions caused by cytomegalovirus in patients with AIDS.
Am. J. Roentgenol., 156, 1302-1303.
appearance of cytomegalovirus associated colitis in non-
immunocompromised patients: report of 2 cases. Clin. Infect. Dis., 37,