

Menetrier's Disease Associated With Cytomegalovirus In An Adult Female

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Citation

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Abstract

Menetrier's disease, a hyperproliferative protein losing gastropathy, is a rare disorder of the gastric foveolar mucosa with a characteristic endoscopic and histopathologic appearance. Menetrier's disease usually is a disease of adult men; however, it has also been described in children. The etiology of Menetrier's disease is largely unknown. Increased signaling by transforming growth factor- β and infection with *H. pylori* (*H. pylori* gastritis) have been implicated. The association of Menetrier's disease with cytomegalovirus infection has been reported in over sixty cases in pediatric patients; however, this association has been rarely reported in adults and interestingly all of the latter have been males. We report a case of 22-year old, immunocompetent female with clinical, endoscopic and histopathologic findings of Menetrier's disease that demonstrated cytomegalovirus by DNA in-situ hybridization. This case hence adds to the extremely rare occurrence of Menetrier's disease associated with CMV in an adult and to our knowledge is the first report of such a case in an adult female.

INTRODUCTION

Menetrier's disease, a hyperproliferative protein losing gastropathy is a rare disorder of the gastric foveolar mucosa. First described in 1888 it is believed to result from overexpression of transforming growth factor- β .¹ It is characterized clinically by epigastric pain, diarrhea, weight loss, hypoalbuminemia and edema. Histologically, there is markedly elongated, tortuous and cystically dilated foveolae with marked hyperplasia of foveolar mucous cells that gives the glands serrated outlines. Menetrier's disease usually is a disease of adult men; however, it has also been described in children. The association of Menetrier's disease with cytomegalovirus infection has been reported in over sixty cases in pediatric patients in the literature.²⁻⁴ Interestingly, this association has been reported only in four adults till date, all of them males.⁵⁻⁸

REPORT OF A CASE

A 22-year old female presented to the emergency department with epigastric and left upper quadrant abdominal pain accompanied by nausea and vomiting. She denied any chest pain or shortness of breath, fever or change in bowel habits. Physical examination revealed an obese female, who was alert, oriented, and slightly distressed. No peripheral lymphadenopathy was detected. The chest and

lung were within normal limits. The heart rhythm was regular with no murmurs. Abdominal examination revealed epigastric tenderness, but no detectable masses, ascites or organomegaly. There was mild bilateral pedal edema. The patient's past medical history was positive for urinary tract infections. Her hemoglobin was 107 g/L with, platelet count 195×10^9 /L, WBC count 5.0×10^9 /L. Liver function tests showed elevated ALT of 87 IU/L and AST of 73 IU/L. The serum albumin was low, 1.6 gm/dl. The LDH was mildly elevated at 284 IU/L. Alkaline phosphatase and bilirubin were within normal limits. Beta-HCG was negative. Urea and creatinine was within normal limits. Epstein-Barr virus titers were positive for both IgG and IgM. Anti-nuclear antibody (ANA) and antimitochondrial antibodies were negative. Serum amylase and lipase were within normal limits. Urinalysis was positive for red blood cells, but negative for white blood cells or protein. An acute abdominal series was negative. A CT scan of the chest and abdomen were performed and failed to show any organomegaly or masses. Endoscopic ultrasound revealed gastric wall thickening involving the mucosa and submucosal layers with gastric wall thickness of 6.6 mm. Esophagogastroduodenoscopy showed Grade 1 gastroesophageal reflux disease and hypertrophy of the rugal folds of the gastric body and fundus (figure 1A), and

multiple small umbilicated nodules in the antrum. There was also poor gastric distensibility with ulcerative changes and friability of the gastric body mucosa. Multiple biopsies and large snare mucosal excision were performed. Differential diagnoses included benign etiologies such as reactive gastropathy, *Helicobacter pylori* gastritis and Zollinger-Ellison syndrome, as well as malignant etiologies, most notably gastric lymphoma.

PATHOLOGICAL FINDINGS

Microscopically, the foveolae were elongated, tortuous and cystically dilated, and lined with marked hyperplastic mucous cells (figure 1B). The surface epithelium was intact without ulcers or erosions. The lamina propria was slightly expanded by inflammatory cells. H&E, Giemsa and immunohistochemical stains for *H. pylori* were negative. Immunohistochemical stains and in situ hybridization for EBV were negative. The original sections failed to show cytomegalovirus inclusions, however, inclusions were identified in deeper levels (figure 1C), and confirmed by in cytomegalovirus in-situ hybridization studies (figure 1D).

COMMENT

Menetrier's disease or protein losing gastropathy is a rare disorder of the gastric mucosa characterized clinically by epigastric pain, diarrhea, weight loss, edema and hypoalbuminemia. Histologically, there is diffuse hyperplasia and thickening of the gastric mucosa with marked elongation of gastric pits with scattered cystically dilated glands at the base of the mucosa. There is also marked hyperplasia of mucus glands producing serrated outlines. There is no ulceration. Only slight increase in the inflammatory cells in the lamina can be seen, and intestinal metaplasia is uncommon. These changes are typically limited to the fundus and body; however the antrum may also be involved. In the majority of cases, Menetrier's disease occurs in adult men; however, it has also been described in pediatric patients. The etiology of Menetrier's disease is still unknown. Association of Menetrier's disease with increased signaling by transforming growth factor- β and infection with *H. pylori* (*H. pylori* gastritis) have been implicated and repeatedly reported in literature.⁸ The

association of Menetrier's disease with cytomegalovirus infection has been reported in over sixty cases in pediatric patients; however, this association has been rarely reported in adults and interestingly all of the latter have been males. The current case adds to the extremely rare occurrence of Menetrier's disease associated with CMV in an adult and to our knowledge, and the first report of such a case in an adult female.⁹⁻¹²

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