Image Diagnosis: A Gastric Signet-Ring Adenocarcinoma of Type Linitis Plastica Mimicking Splenomegaly in a Patient with Chronic Lymphocytic Leukemia

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CASE PRESENTATION

A 56-year-old Vietnamese man was found to have leukocytosis during a respiratory infection. Review of systems revealed "swollen" neck lymph nodes, but no fever, night sweats, weight loss, bruising, jaundice, or weakness. There were 1.5-cm bilateral cervical and axillary lymph nodes but no hepatosplenomegaly. A blood test showed white blood cell count was 29,100/μL (normal range, 3,500/μL-12,500/μL), hemoglobin was 13.4 g/dL (normal range, 13.0 g/dL-17.0 g/dL), and platelet count was 247 K/μL (normal range, 140 K/μL-400 K/μL). Peripheral smear demonstrated 72% lymphocytes and 1+ smudge cells. Blood chemistry and protein electrophoresis were unremarkable. Blood flow cytometry showed phenotypically abnormal B cells positive for CD19, CD20, CD25 (partial), FMC-7 (dim), CD5, CD23, and kappa, but negative for lambda. A computed tomography scan of the neck, chest, abdomen, and pelvis revealed diffuse lymphadenopathy and no splenomegaly. The patient was diagnosed with Rai stage I, B-cell chronic lymphocytic leukemia (CLL). No treatment was recommended.

Almost two years later, the patient presented with weight loss, postprandial abdominal pressure, and a "bump" in his left upper abdomen. On examination, his peripheral lymph nodes had increased in number but not in size. His abdomen exhibited a protruding area in the left upper quadrant (Figure 1) where a firm, nontender mass was palpable extending 14 cm below the left costal margin. White blood cell count was 31,200 μL, hemoglobin was 12.1 g/dL, and platelet count was 200 K/μL. A computed tomography scan of the abdomen and pelvis demonstrated marked stomach wall thickening, which was concerning for lymphomatous involvement (Figure 2). The spleen appeared normal. An esophagogastroduodenoscopy revealed a poorly distensible stomach with marked wall edema, friability, and ulceration (Figure 3). Biopsy showed diffuse signet-ring cell adenocarcinoma.

Three months after presentation, our patient completed three cycles of FLOT chemotherapy (fluorouracil, leucovorin, oxaliplatin, docetaxel) without improvement. Because of treatment failure, he decided to forgo further therapy and died from progressive cancer five months later.

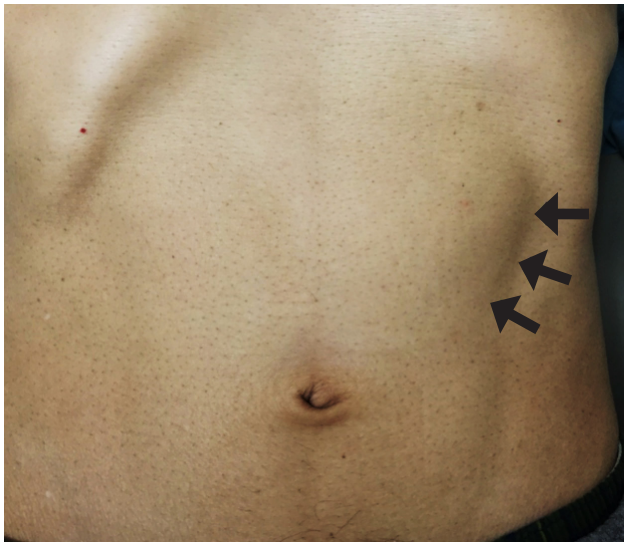

Figure 1. Photograph of the patient's abdomen. The black arrows indicate a visible area of a protruding mass.

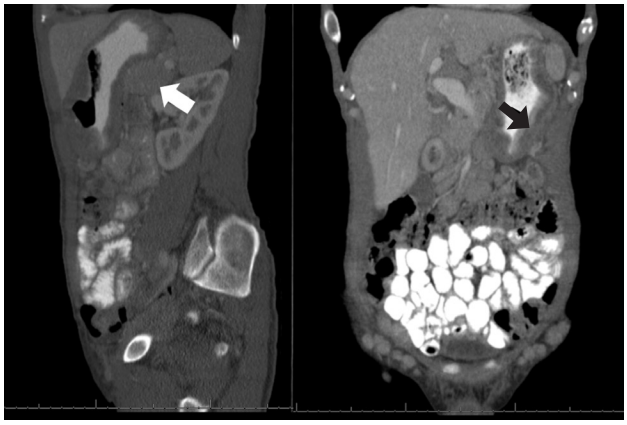

Figure 2. Computed tomography scan of the abdomen and pelvis. The white arrow shows the spleen pressing on the posterior wall of the stomach. The black arrow demonstrates a grossly thickened gastric wall.

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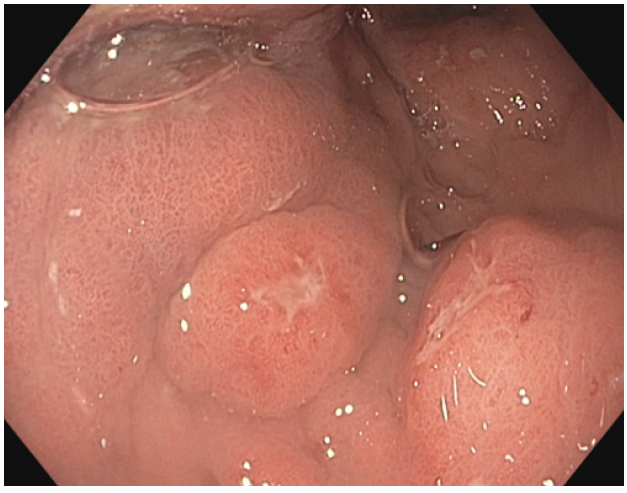

Figure 3. Esophagogastroduodenoscopy demonstrating a circumferential erythematous stenotic gastric mass with associated edema and ulceration.

DISCUSSION

Typically, adenocarcinoma of type linitis plastica (LP), known as Brinton disease or leather bottle stomach, is characterized by diffuse infiltration of neoplastic signet-ring cells with significant desmoplastic response.[1] This imparts a rigid consistency to the stomach wall, with a thickened, fibrotic appearance. In our patient, the firm consistency of his stomach, along with its location, shape, and characteristic downward movements with deep breaths, mimicked the appearance of an enlarged spleen. The computed tomography scan was a definitive test that demonstrated an abnormal stomach but stable spleen size.

Gastric cancer occurs rarely in association with CLL.[2] To our knowledge, gastric LP, which represents 7% to 10% of gastric adenocarcinomas in its typical "signet-ring" form,[3] has not been reported in conjunction with CLL. Patients with LP of the stomach typically show very poor response to chemotherapy or combination radiation/chemotherapy[4-8] and have a dismal prognosis with a 5-year survival of 3% to 12%.[3,5,7]

In a presentation such as this, one might ordinarily assume spleen enlargement in a patient with known CLL. However, our case of gastric LP stresses the importance of considering other causes for an abdominal mass. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

How to Cite this Article

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