Amyloidoma of the Stomach

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Abstract. Localized amyloid deposit in the gastric antrum presented as an ulcerated mass on upper gastrointestinal series. Radiographic and autopsy findings are correlated and the literature is reviewed.

Key words: Amyloidosis, diagnosis – Stomach, ulcerated mass.

Deposits of amyloid found simultaneously in many organs are not unusual. The deposition of this amorphous, wax-like eosinophilic material in the stomach with no involvement of other organ systems is extremely rare. Only 2 cases of amyloidosis confined to the stomach were reported in the literature. They were, however, not confirmed at autopsy. The case described below also represents a case of amyloidosis confined to the stomach except for the involvement of two regional lymph nodes, and in this case the findings were confirmed at autopsy.

Case Report

This 50-year-old man was admitted with a 2-month history of a bloated feeling in the abdomen which seemed to be worse after meals. The patient denied any nausea, vomiting, loss of appetite, weight loss, or change in bowel habits. The only significant medical history was that of hyperlipidemia type IV, mild glucose intolerance, and a myocardial infarct suffered 5 years prior to the present admission. Physical examination revealed a well-nourished male in no acute distress. Except for a slight fullness detected in the epigastric region and some tenderness to palpation, the examination of the abdomen was unremarkable. In particular, no abdominal masses were palpated.

An upper gastrointestinal series showed a mass with central ulceration in the antrum of the stomach (Fig. 1). The mass was noted to displace the mucosa and was believed to be submucosally located with the overlying mucosa intact except for a small area of ulceration. The antral walls were pliable and peristalsis was unremarkable. Barium enema, intravenous urogram, and chest X-rays were normal. EKG showed changes compatible with myocardial ischemia. Serum immunoelctrophoresis was normal and the urine was negative for Bence-Jones protein. Gastroscopy was attempted but abandoned as the patient developed severe angina during the procedure. At surgery, a large mass was noted arising from the anterior wall of the antrum with central ulceration. The resected stomach contained a firm, circumscribed mass, 0.5 cm proximal to the pylorus, palpated beneath an ulcerated mucosa (Fig. 2). On section, this was a tan, firm mass, 5.0 × 5.0 × 2.0 cm, which appeared confined to the submucosa. The rest of the stomach was unremarkable. Two regional lymph nodes submitted from near the pyloric area were enlarged up to 2.5 cm.

On microscopic examination, the largely submucosal mass extended to the superficial muscularis. It was composed of aggregates of lymphocytes with pale germinal centers interspersed with normal plasma cells and amorphous eosinophilic material which stained positively with Congo Red and Crystal Violet. In some areas, amyloid composed the bulk of the mass (Fig. 3). Amyloid also involved the walls of both arteries and veins. Two regional lymph nodes also contained many plasma cells and amyloid. Diagnosis was amyloidoma of stomach and amyloidosis and plasmacytic hyperplasia of two regional lymph nodes. The patient discharged 10 days postoperatively and was apparently making satisfactory progress, but was found dead at home 3 weeks after surgery. An autopsy was performed. Death was attributed to arrhythmia since at coronary angiography during the patient's hospitalization and at autopsy the principal finding was severe coronary atherosclerosis. All organs were stained for amyloid and were negative. There was no evidence of multiple myeloma.

Discussion

Documented cases of amyloidosis confined to the stomach are very rare. Intriere and Brown [1] reported the first such case in 1955 in a 64-year-old woman. The patient complained of heartburn and postprandial epigastric pain relieved by food and antacids. The only abnormal findings on physical examination were abdominal distention and a multinodular goiter. Plasma protein determinations revealed
marked elevation of gamma globulins. No Bence-Jones protein was detected in the urine, and the Congo red test was negative. An upper gastrointestinal series showed lack of peristalsis and gastric dilatation simulating linitis plastica but no definite mass. At surgery an enlarged stomach with thick walls was seen. The serosal surface was very friable and bled easily on contact. Hence gastric resection was not attempted but biopsy of the gastric wall demonstrated evidence of amyloid involving all the layers of the wall of the stomach. Bone marrow, liver and gastrocnemius biopsies showed no evidence of amyloidosis. Macmanus and Okies [2] reported a similar case in 1976 in a 59-year-old woman admitted with upper gastrointestinal bleeding having vomited one pint of guiac-positive material. A right radical mastectomy had been performed 1 year previously for adenocarcinoma of the breast which subsequently was noted to have spread to the axial skeleton and ribs. Physical examination was unremarkable. A subtotal gastrectomy and Billroth II anastomosis was performed for acute erosive, hemorrhagic gastritis. Histology revealed marked diffuse amyloidosis in the stomach in addition to changes of acute ulcerating gastritis. Work-up for systemic amyloidosis at a subsequent admission including rib, rectal, tongue, and liver biopsies was negative.

The clinical diagnosis of amyloidosis, even when