Multiple Lipomas of the Stomach and Duodenum

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Although gastroduodenal lipomatosis is a rare entity, we recently encountered a patient with this condition. On upper-gastrointestinal examination, the roentgenologic findings were striking and bizarre, causing significant confusion in the initial diagnosis. We believe that the unusual features present in this patient are of sufficient interest to justify presentation as a single case report.

CASE REPORT

A 50-year-old woman was hospitalized in January 1973 complaining of gnawing epigastric discomfort of 4 months' duration, accompanied by intermittent vomiting of 1 month's duration. Her symptoms seemed to be unrelated to eating. She denied hematemesis or melena. A prior history of gastrointestinal symptomatology was not elicited. Several weeks before admission she underwent an upper-gastrointestinal series at a medical clinic. An abnormality involving the stomach and duodenum was diagnosed as lymphoma and the patient was referred for hospitalization.

Physical findings were normal except for questionable fullness in the epigastric region. On laboratory examination, values for a complete blood count, SMA 12 panel, amylase, and protein electrophoresis were normal. Urinalysis values were normal except for 10-15 red blood cells per high-powered field. The urine culture grew out E. coli, 100,000 colonies/ml. An upper-gastrointestinal series revealed multiple smooth masses in the stomach and duodenum (Figure 1). These masses resembled submucosal lesions and were compressible on palpation (Figure 2), suggesting the possibility of multiple lipomas. No small-bowel abnormalities were demonstrated. Selective arteriographic examination of the celiac and superior mesenteric vessels revealed stretching of a gastroduodenal artery branch, but no evidence of vascular encasement or tumor vascularity (Figure 3). Results of a liver scan were normal.

At exploratory laparatomy, multiple large tumors, soft in consistency, were palpated along the greater curvature of the stomach and throughout the entire duodenum. Several additional soft tumors, fatty in their appearance, were present in the mesentery. An incision made over one of the gastric lesions revealed yellowish fatty tissue. A full thickness biopsy was obtained, and subsequent histologic examination demonstrated submucosal nodules composed of mature fat cells. The overlying mucosa was normal. The surgical and histologic findings established the roentgenologic diagnosis of gastroduodenal lipomatosis.

DISCUSSION

Although solitary lipomas represent one of the most common benign submucosal tumors occurring in the stomach and duodenum, development of multiple lipomas at either of these sites is rare. Search of the medical literature reveals 6 isolated case reports of multiple lipomas involving the stomach (1-4), duodenum (5), or both (6). In several instances the lipomas numbered 3 or less (1, 4, 6). Of the reported cases, 4 patients exhibited symptoms of acute or chronic gastrointestinal bleeding, and 2 patients had vague nonspecific gastrointestinal symptoms similar to the present case.

The roentgenologic features of solitary alimentary-tract lipomas are well established and reasonably characteristic (7, 8). The more typical roentgenologic findings of a lipoma may be summarized as follows: (1) A smooth, sharply circumscribed intraluminal filling defect causing stretching and effacement of overlying mucosal folds. (2) Viewed tangentially, the lesion has tapering margins without undercutting, a feature which suggests a submucosal intramural origin rather than a mucosal origin.
(3) Due to their soft consistency, the lesions are deformable and compressible by palpation or peristalsis. (4) Pliability and normal motor function of the underlying bowel wall is generally preserved. Additionally, lesions of large size may cast a radiolucent density on plain films. In some instances, lipomas demonstrate findings of ulceration, pedunculation, or intussusception. When lipomas are multiple and closely clustered, as in the present case, the features characteristic of a solitary lipoma may be either absent or difficult to recognize, causing confusion in diagnosis.

In the present case, several features suggested the diagnosis of multiple submucosal lipomas. Although bizarre in appearance, the multiple lesions were smooth and compressible. The lesions obscured the features of motor activity, but some pliability of the bowel wall was discerned at fluoroscopy. Review of the plain films revealed the lesions to be radiolucent. Arteriographic examination demonstrated the lesions to be avascular causing blood vessel displacement, but no vessel encasement. Although not performed in the present case, water examination of the stomach and duodenum using