Leiomyoblastoma Stomach

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Abstract

Three patients with epithelioid leiomyomatous tumors (leiomyoblastomas) of the stomach are presented.

Key words: Leiomyoblastoma, stomach, laparotomy.

Introduction

Although tumors derived from the smooth muscles are the most common non-epithelial tumors of the stomach, they constitute less than 2-5% of all gastric tumors and are either leiomyomas or leiomyosarcomas. In a study of six patients Martin et al. described another type of smooth muscle tumor and named it "myoid tumor." Stout applied the term "leiomyoblastoma" to this interesting entity. Although these tumors are benign, some are malignant or potentially malignant. These bizarre smooth muscle tumors have been variously diagnosed as leiomyosarcoma, liposarcoma, hemangiendothelioma, and fibroblastoma.

The present report deals with three such cases treated during the past five years at our Institute.

Case Reports

Case 1: A 30 years old male presented in May 1983 with history of pain in the epigastrium and recurrent upper gastrointestinal bleed of 3 years' duration. Examination revealed a shirty built subject with anaemia (Hb 9.4 g/dl). Abdominal examination was non-contributory. Barium meal study of the upper GI tract revealed a big gastric ulcer in the body of the stomach. Endoscopy revealed a large ulcer covered with slough on the posterior wall of the stomach. Repeat biopsies were negative for malignancy.

Exploratory laparotomy revealed a mass, about 10 cm x 10 cm in size, arising from the posterior wall of the stomach with five other nodules 0.5 cm to 2 cm in size in the body of the stomach posteriorly. On opening the stomach, the main mass had an excised ulcer covered by slough. No lymphadenopathy was present. Surgical gastrectomy with retrocolic Polya anastomosis was done.

Microscopic study revealed well-circumscribed tumor nodules in the muscularis propria, consisting of intersecting bundles of spindle-shaped cells having plump nuclei. A few tumor cells had round or oval nuclei and perinuclear halo. There were 1-2 mitotic figures/HPF. Barium study and endoscopy done in October 1987 revealed no evidence of recurrence. He has been asymptomatic since.

Case 2: A 46 years old male presented with a history of lump in the epigastric region of 1 year duration, in August 1985. He was a well built man and on examination was found to have a round swelling, 12 cm x 8 cm in size, in the epigastrium, slightly mobile and moving with respiration. A pyramidal cyst of the left lobe of the liver was diagnosed clinically, but ultrasonography revealed it to be a gastric mass and a barium study of the stomach revealed a rounded, smooth filling defect in the body of the stomach suggestive of a leiomyoma. Endoscopy revealed a bulge in the anterior wall of the stomach, with a small ulcer on it.

At laparotomy, there was a mass, 10 cm x 12 cm, arising from the anterior wall of the body of the stomach. Partial resection was performed. On histopathology the excised mass was composed largely of rounded or polygonal cells, having well defined borders and central round vascular nuclei. The majority of cells had vacuolated cytoplasm but others had abundant eosinophilic cytoplasm. Occasional cells had large hyperchromatic atypical nuclei, but mitotic figures were rare. The mucosa was unremarkable. A diagnosis of leiomyoblastoma was made.

The patient was asymptomatic when last seen one year after surgery.

Case 3: A 65 years old male presented in November 1987 with complaints of a gradually increasing swelling in the epigastrum of 4 months' duration. Clinical examination revealed a 20 cm x 15 cm swelling occupying the epigastrum and part of the right hypochondrium and umbilical region. The swelling did not move on inspiration and was dull on percussion. The liver and spleen were not palpable. Biochemical and hematological tests were normal. Ultrasonography revealed a big tumor filling the epigastrum and right hypochondrium, with mixed echogenicity. The liver and spleen were normal. Barium meal study revealed an extrinsic pressure on the gastric lesser curve. Endoscopy was normal. A diagnosis of pancreatic pseudocyst was made.

At laparotomy, a 20 cm x 15 cm mass was found over the lesser curve and anterior surface of the lower half of the stomach with omentum attached to it. A lower partial gastrectomy (Polya II) was performed. Histopathological examination revealed oval cells with prominent central nuclei and clear cytoplasm occasionally intermingled with smooth muscle cells. Mitotic figures were 3 per 10 HPF. The overlying gastric mucosa was normal. On follow up, six months after surgery, the patient is well and asymptomatic.

Discussion

Leiomyoblastomas are rare and relatively benign. These tumors may be submucosal, subserosal or both, and are found commonly in the region of the body and antrum of the stomach. Their smooth muscle origin is now well accepted but the criteria of malignancy remain debatable. An enormous size may denote malignancy but the mitotic rate remains low.

The histopathology of leiomyoblastoma is characteristic. It shows polygonal or oval cells with prominent nuclei and faintly or deeply eosinophilic non-fibrillated cytoplasm. Occasionaly oval cells are intermingled with smooth muscle cells (Fig). A clear zone around the nucleus resembles that around peritumors in glomus tumors but the tumors reported here have no other features linking them either with glomus tumors or leiomyoepitheliomas of the stomach. Histologically the presence of more than five mitotic figures per fifty high power fields is considered highly suggestive of malignancy.
Treatment involves complete surgical excision with a fair margin of normal stomach. With large tumors it may be necessary to perform a gastrectomy. Regional lymph nodes are not usually involved but should be resected if involved.

The prognosis of gastric leiomyoblastoma is usually good. However, only prolonged follow up can rule out malignancy in an individual tumor.

References

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