

## HEMOPERITONEUM SECONDARY TO EXOGASTRIC LEIOMYBLASTOMA OF THE STOMACH

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The term leiomyblastoma was first proposed by Martin<sup>1</sup> and Stout<sup>2</sup> to describe an uncommon type of gastric tumor derived from the smooth muscle tissue, with the same macroscopic features of leiomyoma, but with different histological features. The term does not equate malignancy, and all leiomyblastomas should be referred to as either benign or malignant leiomyblastomas. These tumors have been given several different names, such as bizarre leiomyoma, epithelioid leiomyoma, and epithelioid myosarcomas.

Intraperitoneal bleeding is an extremely rare complication of smooth muscle tumors of the stomach. We describe a recent patient with such a presentation.

### Case Report

A 67-year-old male with a past medical history significant for hypertension was admitted to Jackson Memorial Hospital, Miami, Florida, in September 1995, with recurrent ileofemoral deep venous thrombosis. The patient was started on heparin, and while being anticoagulated, developed abdominal pain, weakness, and became hypotensive and tachycardic. There was no clinical evidence of upper or lower gastrointestinal (GI) bleeding. His hematocrit dropped from 42% to 28%. CT scan of the abdomen demonstrated a large hemorrhagic mass, which appeared to be arising from the ventral aspect of the stomach, with associated intraperitoneal hemorrhage (Figure 1). The patient received 3 units of blood, and anticoagulation stopped. An inferior vena cava filter was placed and the clinical course remained stable with no further bleeding.

Three days later, the patient underwent an exploratory laparotomy, with a preoperative diagnosis of intra-abdominal rupture of a leiomyoma vs. leiomyosarcoma. When the abdomen was opened, two liters of blood and clots were found, but the anterior aspect of the stomach was normal. The lesser sac was then explored and was found to contain clots, and a 6x5x1.5 cm pedunculated mass attached to the posterior surface of the greater

curvature of the stomach near the pylorus. The mass was removed with a 1-cm wedge of the stomach, with a clear margin on frozen section. Careful inspection revealed no metastases.

Pathologic examination of the mass revealed epithelioid leiomyoma with cystic formation and hemorrhage, mitotic index 0-1/10 high-power field (HPF), and tumor disposed in sheets and occasional fascicles, with predominantly epithelioid cell morphology. Cystic spaces and recent and old hemorrhage were present. Vacuolated cytoplasm was a prominent feature (Figure 2). Mitoses were extremely rare, the tumor was desmin-positive, and SMA, S-100 and EMA were negative.

### Discussion

Intraperitoneal bleeding is a very rare presentation of smooth muscle tumors of the stomach. Millar was the first to describe hemoperitoneum in a patient with leiomyomatous tumor of the stomach.<sup>3</sup> Since then, six more cases have been described in the English literature.<sup>4,9</sup>

Leiomyblastoma is usually seen in the sixth decade, with a male to female ratio varying from 1.3:1 (Abramson<sup>5</sup>), to 2.4:1. (Applemann<sup>6</sup>). Symptoms resemble those seen with other smooth muscle tumors of the stomach, including upper GI bleeding, abdominal pain and abdominal mass. About 75% of leiomyblastomas of the

FIGURE 1. CT scan of the abdomen showing a large hemorrhagic mass with associated intraperitoneal hemorrhage.

FIGURE 2. Photomicrograph showing a representative pattern within the neoplasm (H&E, 100 x).

stomach are found in the antrum.<sup>6</sup> The rate of malignancy reported in the literature varies. Stout<sup>2</sup> reported two malignancies out of 69 cases, and Abramson<sup>5</sup> reported a 12% rate of malignancy out of 190 cases. Lavin,<sup>7</sup> however, reported a 38% rate of malignancy.

Malignancy is difficult to predict on the basis of morphologic criteria alone. Therefore, follow-up of these patients is essential. Counting mitotic figures has been the standard technique in making the distinction between malignant and benign forms (<1 mitoses figure/10 HPF for benign disease). Tumor size is another factor frequently used to determine benign or malignant status. Tumors >6-

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10 cm have been used as criteria to define malignant status. It is not uncommon, however, to observe metastasis in patients who exhibited no mitotic figures at initial evaluation.<sup>10</sup> It has been suggested by Frimodt-Moller<sup>8</sup> that gastroscopy should be performed on these patients at six-month intervals for the first two years, and thereafter once a year for at least the next 10 years. Our patient had an exogastric lesion, and will need to be followed up with CT scan with or without gastroscopy. Patients should be carefully examined for the presence of metastasis, and slowly growing solitary metastasis should be excised.

Hemoperitoneum secondary to exogastric leiomyoblastoma is an extremely rare complication. In the literature, leiomyoblastoma has often been found to be a benign tumor, however, malignancy is difficult to predict on morphological criteria alone, and follow-up of these patients is essential.

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