

Case report

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## A gastrointestinal stromal tumor (GIST) masquerading as an ovarian mass

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### Abstract

**Background:** Malignant gastrointestinal stromal tumors (GIST) are rare mesenchymal tumors originating in the wall of the gastrointestinal tract. Myogenic gastrointestinal stromal tumor, a distinctive morphologic variant is characterized by an unusually prominent myxoid stromal background.

**Case presentation:** We report a case of myxoid variant of GIST in a 42 years old woman presenting as an epigastric mass associated to an ovarian cyst and elevated CA-125. Histologically, the lesions was composed of a proliferation of spindle cells in an abundant myxoid stroma, without evidence of atypia or anaplasia. Immunohistochemical stains showed strong positive staining with muscle actin, positive staining with CD34 and weak positive staining with CD117, while showed negative for S-100.

**Conclusion:** At surgery every effort should be made to identify the origin of the tumor. A complete surgical removal of the tumor should be obtained, as this is the only established treatment that offers long term survival.

### Background

Gastrointestinal stromal tumors (GIST) are rare tumors that may arise anywhere in the tubular gastrointestinal tract, but stomach is the most common site of localization. Surgery is the main stay of treatment and complete resection is achieved in most of cases [1]. The 5 year overall survival ranges from 21% to 88% in different series, depending from risk grading and completeness of surgical resection [1-4]. In light of the tendency of these tumors to pursue an indolent clinical course with a significant risk of late relapse, a brisk follow-up is advocated for all patients [5]. Imatinib mesylate is proposed as therapy for high risk

GISTs after surgery [6]. A distinctive morphologic variant of gastrointestinal stromal tumor has been described, characterized by a prominent myxoid stromal background reminiscent of a neural neoplasm but lacking the immunohistochemical or ultrastructural features of peripheral nerve sheath or ganglionic differentiation. This variant is more frequent in women and mostly occurs in the stomach. These lesions are described grossly as well circumscribed, unencapsulated, with a prominently myxoid and often cystic cut surface [7]. We report a case of myxoid variant GIST, occurring in a 42 year old woman.



**Figure 1**  
Computed tomography imaging of upper abdomen showing solid mass lesion in epigastric area.

**Case presentation**

A 42-year-old woman presented with pelvic pain, palpable pelvic mass extended to the epigastric region, and elevated CA-125 (61.8 U/ml). Computed tomography (CT) imaging showed a left 6 x 5 cm cystic ovarian lesion and a 12 x 9.5 cm solid mass in the epigastric region (figure 1, 2). A preoperative diagnosis of metastatic ovarian malignancy or FIGO stage III ovarian malignancy was made. At laparotomy, a left ovarian cyst was seen along with a solid mass attached to the greater curvature of stomach which was easily dissected from it. Histologically, the lesions was composed of a proliferation of spindle cells embedded in an abundant myxoid stroma, without evidence of frank atypia or anaplasia. Histochemical stains showed strong positive staining with muscle actin, positive staining with CD34 and weak positive staining with CD117, while it was negative for S-100. The histological work up was conclusive for a low malignancy GIST – myxoid variant, being the mass volume the only risk factor [3,5], the ovarian mass on the other hand was a follicular cyst. Due to the lack of clear risk factors for recurrence, and to complete surgical tumor resection, the patient was advised follow-up only.

**Discussion**

Fletcher et al., [5] classified these tumors in to very low, low, intermediate and high risk, categories according to tumor size and mitotic count. Tumors <2 cm and mitotic count <5/50 high power field (HPF) were categorized as very low risk; tumor size 2–5 cm and mitotic count <5/50



**Figure 2**  
Computed tomography imaging of the pelvis showing cystic ovarian lesion

HPF as low risk; tumor size <5 cm and mitotic count 6–10/50 HPF or tumor size 5–10 cm and mitotic count <5/50 HPF as intermediate risk; tumor size >5 cm and mitotic count >5/50 HPF or tumor size >10 cm and any mitotic rate or tumor any size and mitotic rate >10/50 HPF as high risk. As reported by others [8-10], GIST may mimic a pelvic masses. In such circumstances they are first noticed by gynecologists and are often diagnosed, prior to surgery, as ovarian tumors, either as metastatic from, or metastasizing to gastrointestinal tract. Only at surgery their nature is fully understood. The same was true in our case as a solid epigastric mass was associated to an ovarian cystic lesion similar to that in Krukenberg tumor. Therefore, in presence of a pelvic mass, especially if other unusual signs are present, the possibility of other than a gynecologic tumor has to be considered. At surgery, every effort should be made to identify the origin of the tumor and related anatomic structures. In the case of GIST, a complete surgical removal of the tumor should be obtained, as despite significant advances in new chemotherapeutic regimens have been radical surgical removal only offers chance of long term survival.

**Competing interests**

None declared.

**Authors' contributions**

All authors conceived of the study, and participated in its design and coordination. All authors read and approved the final manuscript.

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Written consent was obtained from the patient or their relative for publication of study.

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