Gastric glomus tumor: a rare case of dyspepsia

Gastric glomus tumors (GGTs) are rare mesenchymal tumors of the gastrointestinal tract originating in the neuromyoarterial glomus [1] and accounting for 1% of gastrointestinal stromal tumors (GISTs). GGTs are generally considered to be clinically benign [2], but malignant behavior cannot be excluded [3,4]. They present as submucosal masses that project into the lumen or out onto the serosa [5] and are distinct lesions that should be considered in the differential diagnosis of a gastric submucosal mass.

In the case presented here, a 54-year-old man was admitted to our surgical department with intermittent epigastric pain and dyspepsia. Gastroscopy revealed the presence of a smooth submucosal mass in the gastric antrum, measuring 10 mm in diameter. A computed tomography (CT) scan confirmed the presence of the mass and showed no evidence of metastasis (Fig. 1). Endoscopic ultrasound (EUS) demonstrated the presence of a homogeneous hypoechoic mass arising from the muscularis propria (Fig. 2).

A partial gastrectomy with a Billroth II reconstruction was performed, and the patient was discharged after 7 days. Microscopically the tumor consisted of medium-sized cells with low proliferative activity (Fig. 3). The results of immunohistochemical analysis of the specimen are given in Table 1. After 36 months of follow-up the patient shows no signs of recurrence.

GGTs are often confused with GISTs or neuroendocrine tumors [6]. EUS helps to identify the layer of origin [1], which is usually the third and/or fourth layer. A CT scan will show strong enhancement, but does not help with the differentiation of GGTs from other submucosal lesions, such as carcinoid, ectopic pancreas, and some GISTs [1]. Immunohistochemical studies have revealed that the cells of a GGT are positive for smooth muscle actin and muscle-specific actin [6]. Endoscopic full-thickness resection is a safe and feasible procedure [7], but the possible approaches (laparotomy/laparoscopy or an endoscopic technique) should be discussed with the patient, taking account of the experience of the center.

![Fig. 1 A computed tomography (CT) scan in a 54-year-old man with intermittent epigastric pain and dyspepsia showing a hyperdense mass in the gastric antrum.](image1)

![Fig. 2 Endoscopic ultrasound (EUS) view showing a homogeneous hypoechoic mass arising from the muscularis propria without evidence of deep involvement.](image2)

![Fig. 3 Microscopic appearances of the resected specimen showing: a medium-sized cells stained with hematoxylin and eosin (H&E; magnification × 40); b positive immunohistochemical staining for muscle-specific actin.](image3)

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Table 1 Results of immunohistochemical staining (Ventana Medical Systems Inc., Tucson, Arizona, USA) of the resected specimen.

<table>
<thead>
<tr>
<th>Antibody</th>
<th>Dilution, µg/mL</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytokeratin AE1/AE3</td>
<td>46.3</td>
<td>–</td>
</tr>
<tr>
<td>S-100 protein</td>
<td>10</td>
<td>–</td>
</tr>
<tr>
<td>CD34</td>
<td>0.8</td>
<td>–</td>
</tr>
<tr>
<td>CD117</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>Chromogranin</td>
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<td>–</td>
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<tr>
<td>Synaptophysin</td>
<td>0.5</td>
<td>+/-</td>
</tr>
<tr>
<td>Vimentin</td>
<td>25</td>
<td>+</td>
</tr>
<tr>
<td>Muscle-specific actin</td>
<td>0.02</td>
<td>+</td>
</tr>
<tr>
<td>Calponin</td>
<td>0.15</td>
<td>+</td>
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<tr>
<td>Caldesmon</td>
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<td>+</td>
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</table>

References

Bibliography
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Competing interests: None

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