

Preoperative Embolization for Endoscopic Resection of Gastric GIST

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A 71-year-old woman with no significant past medical history presented with persistent upper abdominal pain of three months. Laboratory tests were unremarkable except for mild anemia. Gastroscopy revealed a 50-mm submucosal tumor on the anterior gastric body wall with central ulceration (Fig. 1). Endoscopic ultrasound (EUS) confirmed a hypoechoic lesion originating from the muscularis propria layer. No preoperative biopsy was performed due to the risk of bleeding and potential tumor seeding. Contrast-enhanced abdominal computed tomography demonstrated a hypervascular gastric mass without evidence of regional lymph node involvement or distant metastasis (Fig. 2). Given the tumor's large size, hypervascular nature, and location amenable to endoscopic resection in conjunction with the patient's strong preference for a minimally invasive approach after detailed discussion, an endoscopic strategy was pursued. To reduce the substantial risk of hemorrhage, preoperative transarterial embolization (TAE) was performed. Digital subtraction angiography identified the left gastric artery as the primary feeding vessel (Fig. 3). Successful embolization was achieved using microspheres, resulting in occlusion of the tumor's blood supply. Follow-up imaging one month later showed significant tumor shrinkage to 30 mm and resolution of ulceration, making endoscopic submucosal dissection (ESD) feasible. This procedure was subsequently performed under general anesthesia, and en bloc resection was achieved using a snare. The resected specimen measured 30×40 mm. Histopathological examination confirmed a gastrointestinal stromal tumor (GIST) with positive immunohistochemical staining for CD117 and DOG-1. The mitotic count was low (<5/50 HPFs). The patient recovered uneventfully and was discharged on postoperative day 3. No recurrence was observed at one-month follow-up.

GISTs are the most common gastrointestinal mesenchymal neoplasms, often gastric in origin [1]. While surgical resection is primary treatment, ESD offers a minimally invasive alternative for selected cases [2,3]. Resecting large, hypervascular GISTs carries significant bleeding risk. Preoperative TAE reduces tumor

vascularity and size, facilitating safer resection. Although no prior reports specifically address TAE for ESD bleeding reduction, its efficacy is supported in other gastric surgeries. Ghelfi et al. [4] demonstrated reduced anastomotic leakage and mortality with preoperative embolization before esophagectomy. Similarly, Akiyama et al. [5] showed preserved gastric blood supply using this technique for esophageal cancer.

This case illustrates the potential utility of preoperative TAE to enable safe ESD resection of large, hypervascular gastric GISTs by mitigating hemorrhage risk. Further studies are warranted to evaluate long-term outcomes.

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