

EUS diagnosis and rescue of gastrointestinal stromal tumor rupture and massive hemorrhage (with video)

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A 54-year-old man was admitted to the emergency department with hematochezia. Abdominal enhanced computed tomography showed a 2.5 × 2.0-cm blood-rich mass between the descending portion of duodenum and the head of the pancreas [Figure 1]. During hospital stay, the patient suddenly experienced massive hematemesis, and hemoglobin level decreased from 10.7 g/dL to 7.7 g/dL, resulting in hemorrhagic shock.

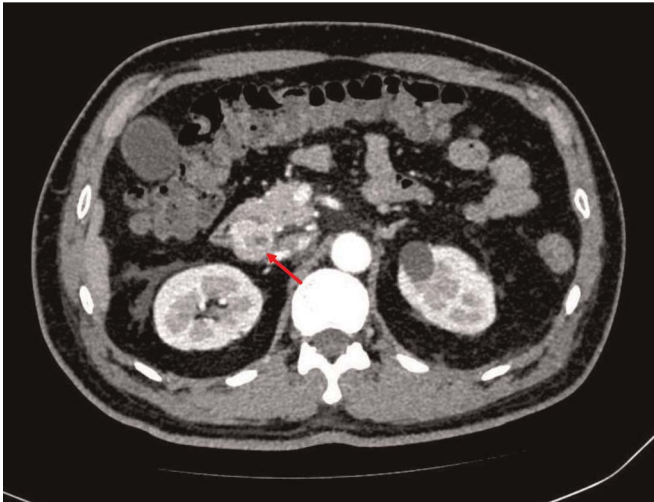


Figure 1. Abdominal enhanced computed tomography showed a blood-rich mass between the descending portion of duodenum and the head of the pancreas.

Emergency endoscopy is recommended after multidisciplinary consultation, and a mass was found on the side of the oral side of the duodenal papilla with surface ulceration and active bleeding [Figure 2]. After evaluation, the gastroscopy was unable to complete hemostasis and switched to EUS. Through EUS, a hypoechoic lesion of the duodenum can be seen [Figure 3A], with rich blood flow signals. Under the guidance of EUS, a 22-gauge puncture was used to perform fine-needle aspiration for the lesions [Figure 3B], and histoacryl was injected into the perforator vessel [Figure 3C, Video 1]. Then, the blood flow signal disappeared after injection. Finally, histoacryl was injected on the surface of the lesions under direct vision [Figure 3D], and no active bleeding was observed. After treatment, the patient did not experience any further hematochezia and completed the surgery 2 days later. The puncture biopsy and surgical pathology both confirmed gastrointestinal stromal tumor (GIST) [Figures 4A–D].

Gastrointestinal stromal tumors are uncommon tumors, accounting for approximately 1% to 2% of gastrointestinal neoplasms.^[1] Rupture and bleeding of GISTs are even rarer, and surgical resection through laparoscopy or laparotomy is the preferred method of treatment.^[2] However, tumor rupture significantly increases the risk of surgery and may lead to poor prognosis.^[3] Our team



Figure 2. A mass on the side of oral side of duodenal papilla with surface ulceration and active bleeding.

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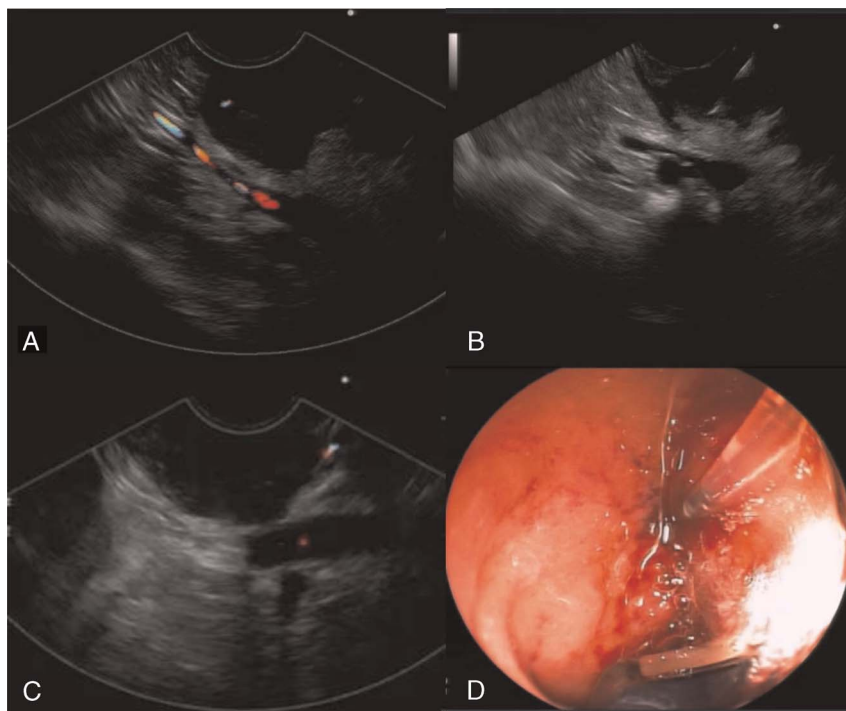


Figure 3. The treatment process of EUS. A, The lesion of the duodenum. B, EUS-guided puncture biopsy. C, Histoacryl was injected into the perforator vessel. D, Histoacryl was injected on the surface of the lesions.

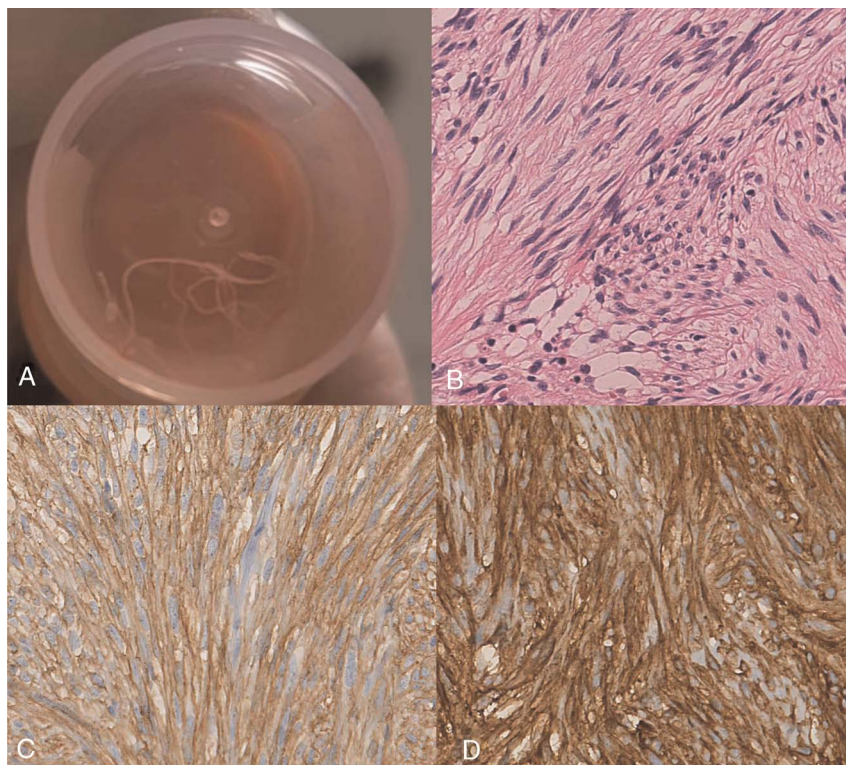


Figure 4. Pathology of the mass. A, Puncture tissue. B, Hematoxylin-eosin staining. C, Immunohistochemical DOG-1 (+). D, Immunohistochemical CD117 (+).

first used EUS-guided histoacryl injection to stop bleeding from GISTs, which not only provided diagnosis of lesions, but also reduced risk for subsequent surgical treatment. Therefore, when there is rupture and bleeding of GISTs, EUS is the recommended diagnostic and treatment method.

Video Legend

EUS for hemostasis of gastrointestinal stromal tumor rupture. Videos are available only at the official Web site of the journal (www.eusjournal.com).

Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent. The patient has given his consent for his images and other clinical information to be reported in the journal.

Source of Funding

None.

Conflicts of Interest

The authors declare that they have no financial conflict of interest with regard to the content of this report.

Author Contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Yiteng Meng, Lisheng Wang and Jun Yao. The first draft of the manuscript was written by Yiteng Meng and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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