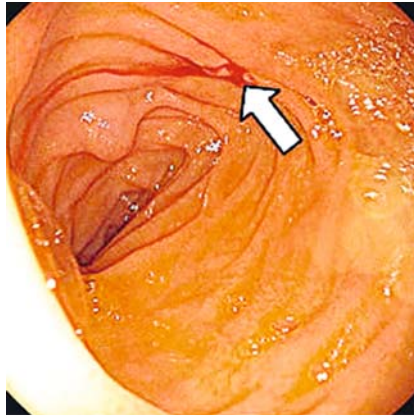


Giant duodenal hematoma after duodenal biopsy in a patient with suspected acute gastrointestinal graft-versus-host disease

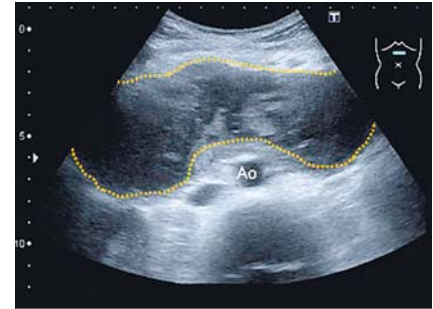
A 21-year-old man developed nausea and weight loss 2 months after undergoing allogenic hematopoietic stem cell transplantation for treatment of acute myeloid leukemia. He was referred to gastrointestinal endoscopy for a duodenal biopsy, which is a procedure commonly used to confirm the diagnosis of acute graft-versus-host disease (GvHD) [1]. His coagulation test results were within the normal ranges and his platelet count was $52 \times 10^9/L$. The examination was uneventful and a duodenal biopsy was performed without significant bleeding (► **Fig. 1**).

Shortly after the intervention, the patient complained of upper abdominal pain, which initially responded to symptomatic therapy. However, after 24 hours, he presented with vomiting and progressive abdominal tenderness, suspicious of an ileus. Laboratory tests showed his hemoglobin had decreased from 4.8 mmol/L to 3.3 mmol/L and he had an elevated C-reactive protein (CRP) level at 211 mg/L. Transabdominal ultrasound revealed a large inhomogeneous hypoechoic structure in the horizontal part of the duodenum (► **Fig. 2**; ► **Video 1**). A computed tomography (CT) scan confirmed a large hematoma of the duodenal wall that was causing intestinal obstruction (► **Fig. 3**).

The patient was treated with a nasogastric tube, parenteral nutrition, and platelet transfusion to prevent further bleeding. Despite these attempts, he developed progressive jaundice during the following days and ultrasound confirmed common bile duct dilatation due to compression of the region of the duodenal papilla by the hematoma (► **Fig. 4**). The conservative therapeutic approach was continued, with frequent ultrasound and laboratory monitoring, which showed that the hematoma diminished within 3 weeks, and the patient's symptoms resolved.



► **Fig. 1** Endoscopic view showing the biopsy site (arrow) in the descending duodenum.



► **Fig. 2** Transabdominal ultrasound showing a large hypoechoic structure (orange line) with a mean diameter of 5 cm in the horizontal part of the duodenum. Ao, aorta.

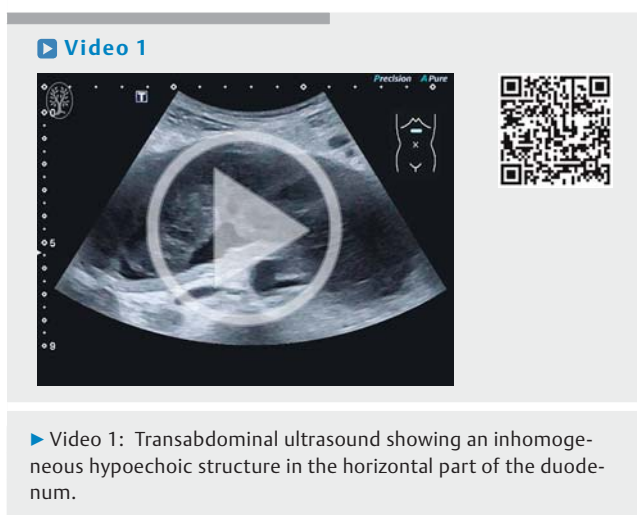
Endoscopy-guided duodenal biopsy is the gold standard for the diagnosis of gastrointestinal GvHD and has a low incidence of severe complications [2]. However, duodenal hematoma following duodenal biopsy may occur in patients with coagulopathy and platelet dysfunction, especially after stem cell therapy [3]. The present case clearly illustrates the potentially life-threatening complications of biopsy-induced intestinal

hematoma and highlights the role of bedside ultrasound as the first-line approach for unclear abdominal symptoms after endoscopic interventions.

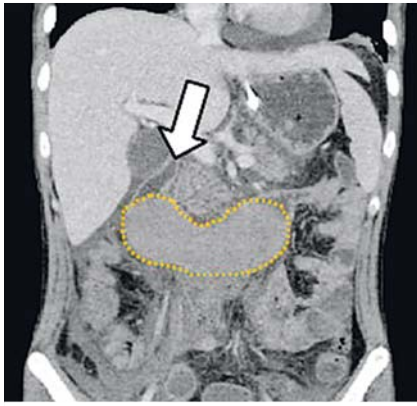
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Competing interests

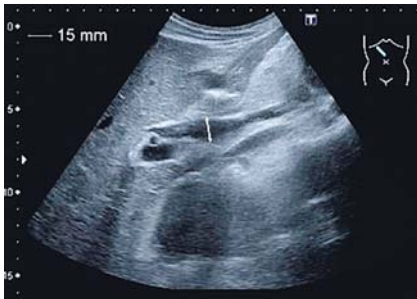
None



► **Video 1**: Transabdominal ultrasound showing an inhomogeneous hypoechoic structure in the horizontal part of the duodenum.



► **Fig. 3** Abdominal computed tomography scan (coronal view) showing a large duodenal hematoma (orange line) and the dilated descending duodenum (arrow).



► **Fig. 4** Transabdominal ultrasound showing common bile duct dilatation up to 15 mm (arrow).

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