Delayed gastric bleeding after EUS-guided fine-needle aspiration of autoimmune pancreatitis

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A 33-year-old man presented with a 1-month history of upper abdominal discomfort. Magnetic resonance imaging revealed a diffusely enlarged pancreas with uneven enhancement. IgG4 levels were elevated (24,100 mg/L, normal: 80–1400 mg/L), but platelets and coagulation tests were normal. An EUS-FNA was performed (once, ten strokes) with a 19-gauge needle (BostonScientific, Expect™, 19G) [Figure 1a and b]; no significant bleeding was observed [Figure 1c]. On day 6 after EUS-FNA, the patient presented with sudden-onset hematemesis and melena together with a significant decrease in serum hemoglobin (120 g/L to 93 g/L). Upper endoscopy showed bulging of the stomach mucosa consistent with the EUS-FNA puncture site and bleeding from the center of the lesion [Figure 1d]. Titanium clips were used to close the wound, and no further bleeding occurred. Pathological findings of EUS-FNA confirmed the diagnosis of Type I autoimmune pancreatitis, and the patient was started on steroids after the bleeding stopped.

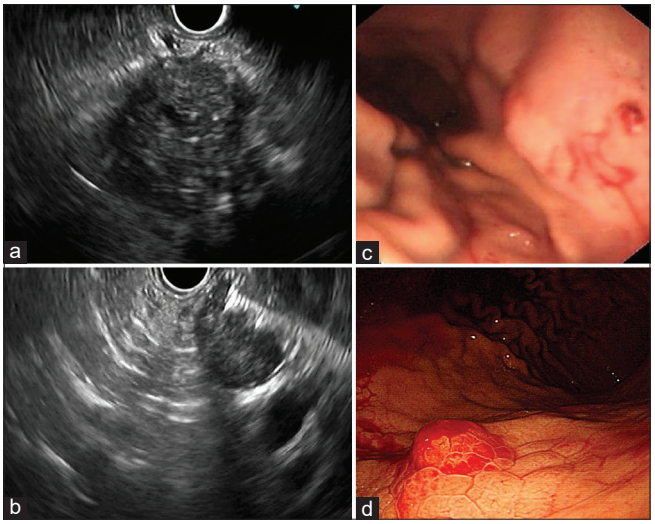

Figure 1. EUS-FNA of the patient. (a) EUS showed diffuse enlargement of the pancreas, with hypoechoic parenchyma and multiple dot-like and linear hyperechoic lesions. (b) EUS-FNA was performed (once, ten strokes) with a 19-gauge needle. (c) No significant bleeding was observed just after the procedure. (d) An emergency upper endoscopy showed mucosal swelling at the upper posterior wall of the body of the stomach consistent with the puncture site, with bleeding on day 6 after EUS-FNA

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Table 1. Published cases of delayed bleeding after EUS-FNA of pancreatic lesions

Author/ year	Sex/age	Lesion	Pathology	FNA	Anticoagulant or antiplatelet therapy	Time of bleeding	Bleeding lesion	Outcome
Roseira *et al*., 2019[3]	Male/65	A pancreatic head mass in the setting of idiopathic chronic pancreatitis	Not mentioned	22G needle, 3 passes from duodenal bulb	No	3 weeks after EUS-FNA	Intramural duodenal hematoma	Conservative therapy. Improvement within 15 days
Sendino *et al*., 2010[4]	Not mentioned	Cystic pancreatic lesion	Not mentioned	19G needle, with EchoBrush	Anticoagulation therapy stopped 2 days before EUS-FNA	1 week after EUS-FNA	Retroperitoneal hemorrhage	Died
Tomoya *et al*., 2015[2]	Male/64	A pancreatic body mass	Invasive pancreatic ductal cancer	22G needle, 2 passes, 10 strokes each	Edoxaban started after EUS-FNA to treat inferior vena cava thrombi	10 days after EUS-FNA	An ulcer at the puncture site on a background of atrophied gastric mucosa	Coagulation hemostasis performed with coagulation forceps, recovery
Our case	Male/33	Diffusely enlarged pancreas	Type I autoimmune pancreatitis	19G needle, 1 pass, 10 strokes	No	6 days after EUS-FNA	Mucosal swelling at the puncture site with bleeding	Titanium clips, recovery

FNA: Fine needle aspiration

The incidence of bleeding due to EUS-FNA of pancreatic lesions is reported to be 0%–1%, with most hemorrhage occurring during the procedure or within 3 days.[1] Delayed bleeding is extremely rare. We performed a literature review and found three other published cases of delayed hemorrhage after EUS-FNA of pancreatic lesions [Table 1].[2-4] The time of bleeding ranged from 6 days to 3 weeks after the procedure, and the site of bleeding included intramural hematoma, retroperitoneal hemorrhage, and mucosal damage at the puncture site. Two of four patients were on anticoagulants. A 19-guage needle was used in two cases, while a 22-gauge needle was used in the other two cases. While three of four cases recovered, one patient on anticoagulants died due to uncontrolled retroperitoneal hemorrhage. To our knowledge, this is the first reported case of an autoimmune pancreatitis patient experiencing delayed bleeding after EUS-FNA. Although IgG4-related disease has been reported to cause acquired hemophilia,[5] our patient had completely normal coagulation tests and he was not on anticoagulation or antiplatelet therapy. The cause of delayed bleeding in the current case remains unknown, but possible explanations might include needle injury to one of the penetrating gastric arteries. Endoscopists must be aware of the uncommon yet possible delayed bleeding complication of EUS-FNA.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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