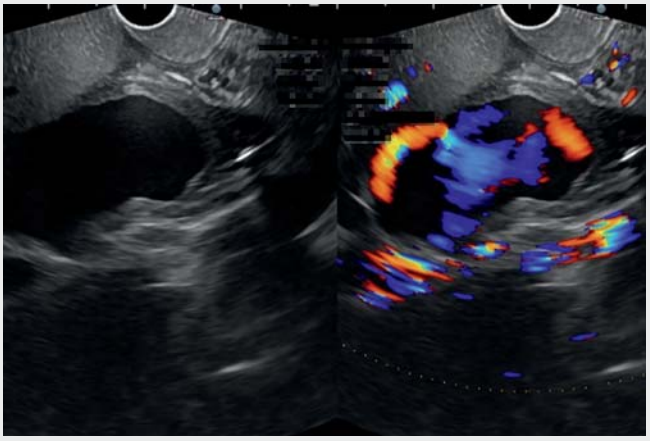
Endoscopic and percutaneous ultrasound-guided thrombin and glue injection in a pseudoaneurysm of the right hepatic artery

Laparoscopic cholecystectomy is complicated by bile duct injuries in 0.6 % – 0.8 % of cases [1]. The injury is categorized as complex if it is located above the confluence or if it is associated with vascular injury. Isolated vascular injuries, such as hepatic artery pseudoaneurysms (HAPs), after laparoscopic cholecystectomy are rare, but may occur in 25 % of patients who suffer bile duct injuries [2]. HAPs have a clinically unpredictable course with varied presentation [3]. We present a case of complex bile duct injury that presented as obstructive jaundice and hemobilia due to a pseudoaneurysm of the hepatic artery after laparoscopic cholecystectomy.

A 30-year-old woman had undergone a laparoscopic cholecystectomy 1 month previously. She developed biliary peritonitis and was admitted to hospital, where an ultrasound showed dilatation of the bile duct and percutaneous transhepatic biliary drainage (PTBD) was performed. She improved clinically and remained stable. However, 10 days later, she presented to us with fever and jaundice for 15 days, abdominal distention, plus hematemesis and melena for 2 days. The biliary drainage catheters were found to be blocked and the PTBD catheter had stopped draining 48 hours previously.

Investigations revealed a hemoglobin of 5.2 g/dL and total bilirubin of 17.6 mg/dL. An abdominal ultrasound showed a left subhepatic collection of 9 × 5 cm and a pseudoaneurysm of 4.5 × 2.1 cm in close vicinity to the hepatic artery. The PTBD catheter was removed in view of its misplacement and an ultrasound-guided percutaneous catheter was placed to provide drainage. After the patient had been resuscitated, a computed tomographic angiogram (▶ **Fig. 1**) confirmed the presence of a pseudoaneurysm of the right hepatic artery. Endoscopic and percutaneous ultrasound-guided interventions were performed to manage the complex bile duct injury and obliterate the pseudoaneurysm of the right hepatic artery (▶ **Video 1**).

▶ **Fig. 1** Computed tomographic angiogram of a right hepatic artery pseudoaneurysm (arrow) on: **a** coronal view; **b** axial view.



Video 1 Endoscopic and percutaneous ultrasound-guided intervention in a complex bile duct injury with hepatic artery pseudoaneurysm secondary to laparoscopic cholecystectomy.

Selective hepatic arterial angiography and embolization is the first-line treatment for HAP. Complications include technical failure to catheterize the artery, spillover embolization of other arteries, risk of hepatic ischemia, and bile duct

stricture secondary to ischemia [4]. As an alternative, endoscopic ultrasound-guided injection of selected visceral pseudoaneurysms has been described and this may be done in HAPs if the anatomy is favorable and the expertise available.

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Competing interests

The authors declare that they have no conflict of interest.

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