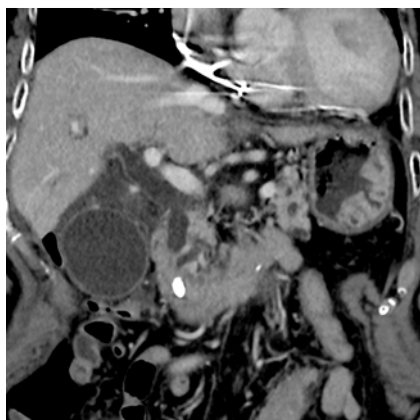


The “squeezing with forceps” method for emergency endoscopic removal of an impacted pancreatic stone in the papilla of a patient on antithrombotic therapy

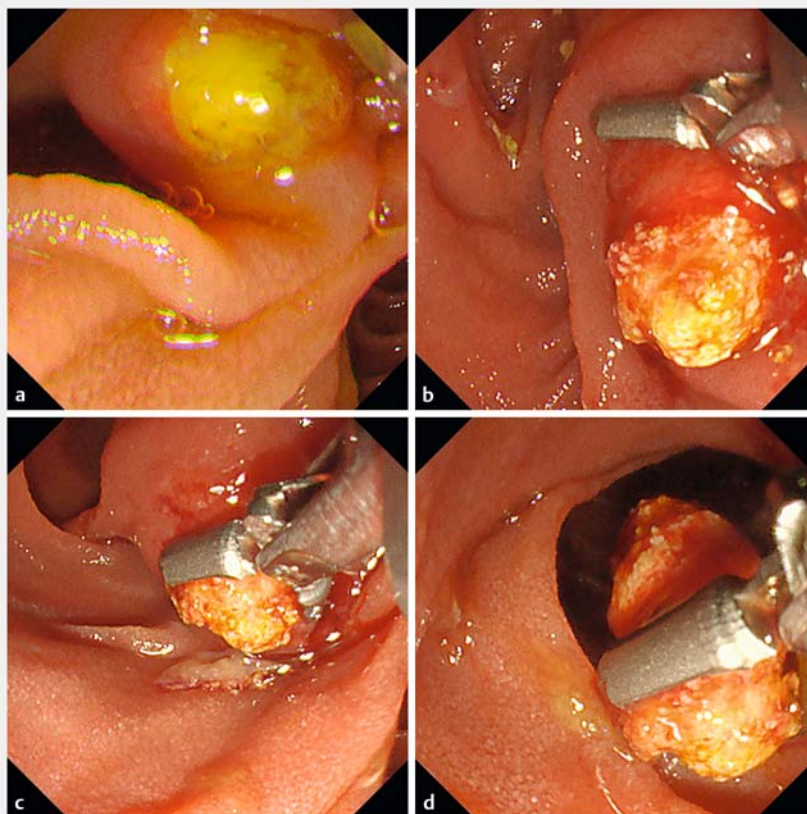
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► **Fig. 1** Coronal image of contrast-enhanced computed tomography showing the pancreatic stone 14 mm in size impacted in the papilla.

Endoscopic pancreatic sphincterotomy or needle-knife precut sphincterotomy is an essential procedure when removing a large impacted pancreatic stone in the papilla [1–3]. However, sometimes it is not feasible to perform such procedures, especially in emergency settings in patients receiving antithrombotic therapy. Herein, we report an alternative method that can be used for emergency endoscopic removal of an impacted pancreatic stone in the papilla of patients undergoing antithrombotic therapy.

An 88-year-old woman was referred to our hospital due to obstructive jaundice with acute cholangitis and pancreatitis that was caused by a pancreatic stone 14 mm in size impacted in the papilla (► **Fig. 1**). She was on antithrombotic therapy following strokes due to atrial fibrillation. The antithrombotic therapy could not be discontinued but she required emergency endoscopic retrograde cholangiopancreatography (ERCP) for her serious condition. We performed emergency ERCP with biliary and pancreatic drainage; however, the attempt failed because a guidewire could not pass the impacted stone in the papilla

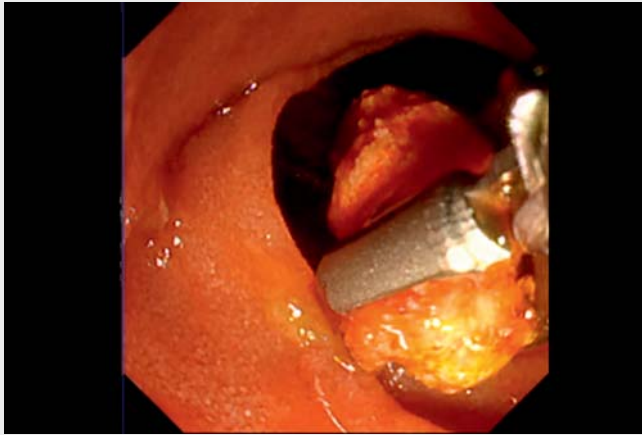


► **Fig. 2** Endoscopic images of the pancreatic stone. **a** The impacted pancreatic stone in the papilla. **b** The papilla was pushed with the opened jaws of rotatable grasping forceps to squeeze out the stone. **c** The “squeezing with forceps” method enabled the stone to be grasped with the forceps. **d** The large pancreatic stone was successfully removed without endoscopic pancreatic sphincterotomy or needle-knife precut sphincterotomy.

(► **Fig. 2a**). Therefore, we used an alternative method, which we have called “squeezing with forceps” method, that uses rotatable grasping forceps (FG-44NR-1; Olympus Medical Systems, Tokyo, Japan). We pushed the papilla with the opened jaws of the grasping forceps as if squeezing out a blackhead (► **Fig. 2b**). Then, we grasped the popped-out pancreatic stone with the forceps, and successfully extracted the impacted stone without any complications (► **Fig. 2c, d**, ► **Video 1**).

Unlike elective ERCP, the use of antithrombotic agents cannot be discontinued in emergency ERCP. The “squeezing with forceps” method allowed safe extraction of an impacted pancreatic stone in the papilla of a patient on antithrombotic therapy. This approach is feasible, especially in the situation where biliary and/or pancreatic drainage is impossible due to the impacted stone.

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Video 1 The “squeezing with forceps” method for emergency endoscopic removal of an impacted pancreatic stone in the papilla of a patient receiving antithrombotic therapy.

Competing interests

The authors declare that they have no conflict of interest.

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