Electrohydraulic lithotripsy with direct peroral cholangioscopy via double-balloon enteroscopy and endoscopic retrograde cholangiopancreatography in a liver transplant recipient

We present a case of a 36-year-old liver-retransplant recipient with a Roux-en-Y biliary-enteric anastomosis, admitted for cholangitis due to a large bile stone and successfully treated by electrohydraulic lithotripsy (EHL) with direct peroral cholangioscopy (DPCS) through double-balloon enteroscopy-assisted endoscopic retrograde cholangiopancreatography (DBE-ERCP).

The procedure was scheduled after performing a magnetic resonance cholangiopancreatography that showed a 29 × 16-mm stone in the pre-anastomotic duct (▶Fig. 1). On endoscopy, the bile stone could be seen throughout the anastomosis and showed no signs of stricture. After bile duct cannulation and confirmation of stone’s dimension on cholangiography, endoscopic balloon dilation was performed, followed by an unsuccessful attempt to break the stone with a basket (▶Fig. 2). It was therefore decided to proceed with EHL without the assistance of a cholangioscope given the good visibility of the stone and the possibility to use the enteroscope to enter the dilated bile duct (▶Video 1). Two EHL probes were required as the first one quickly exhausted, possibly due to its kinking for the DBE loops. Thus, the second one was inserted in an injection needle sheath as protection, resulting in an equally effective probe for a lower power and pulses setting. Complete stone fragment removal was achieved using a basket and a retrieval balloon. No adverse events occurred; the patient was discharged 3 days later.

DBE-ERCP is an effective technique to treat several biliary conditions in patients with surgical altered anatomy [1]. Successful treatment of complex lithiasis using EHL under DPCS has been described both in normal and altered gastrointestinal tract.
nal anatomy after failure of traditional techniques [2–5].

To the best of our knowledge, this is the first report in the literature of EHL with DBE-ERCP without DPCS but supported only by enteroscopy view. This is also the first case reported in a liver transplant recipient. Finally, we describe a cost-effective strategy to preserve the EHL probe from early exhaustion.

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Competing interests

The authors declare that they have no conflict of interest.

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