Endoscopic treatment of Bouveret syndrome with Holmium laser lithotripsy

Gallstone ileus is a rare condition that is seen in about 0.5% of all cases of mechanical intestinal obstruction [1]. Furthermore, only 1%-3% of these patients have Bouveret syndrome, which is defined as the impaction of a large gallstone within the duodenum as a result of a cholecystoduodenal fistula [2]. Endoscopic baskets, mechanical lithotripsy, electrohydraulic lithotripsy, laser lithotripsy, and extracorporeal shockwave lithotripsy are the endoscopic treatment modalities used in Bouveret syndrome [3].

A 69-year-old woman attended the emergency department with severe nausea, vomiting, and abdominal pain, and an absence of flatulence and defecation. Abdominal computed tomography examination showed a cholecystoduodenal fistula and a 56 × 59-mm stone at the intersection of the second and third parts of the duodenum (Fig. 1). Endoscopic evaluation was performed with a CF170Q endoscope (Olympus, Japan), and the orifice of the cholecystoduodenal fistula was observed at the apex of the duodenal bulb. In addition, a giant stone was seen at the intersection of the second and third parts of the duodenum (Fig. 2).

Enterographic examination obtained by the endoscopic administration of radiopaque contrast medium showed almost complete intestinal obstruction (Fig. 3). A LISA-Laser Sphinx Holmium laser fiber was subsequently inserted through the working channel of the endoscope, and the stone was pierced by administering 2 J of pulse energy and 30 W of power at the fiber tip, with a frequency of 15 Hz (Fig. 4; Video 1). With the help of a Dormia basket, the stone fragments were pulled into the stomach, where they were again pierced either with laser or mechanical lithotripsy. After the lithotripsy procedure had been completed, the endoscope was passed to the distal segments of the obstructed area. No stone fragments large enough to cause obstruction in the stomach or duodenum were seen on the second-look endoscopy (Fig. 5).

In conclusion, Bouveret syndrome is a rare and difficult-to-treat condition. Endoscopic approaches using laser lithotripsy allow effective and safe patient management and can avoid surgery-related morbidity.

Endoscopy_UCTN_Code_CCL_1AZ_2AD FB

Competing interests

Anadolu Mega Trading Limited Company (Olympus Turkey Distributor) paid the open access fee for the manuscript. The authors have no other financial or personal ties with the company.
The authors

Bülent Ödemiş, Çağdaş Erdoğan, Batuhan Başpinar, Orhan Coşkun, Mesut Zeki Yalın Küçük
Department of Gastroenterology, University of Health Sciences, Ankara City Hospital, Ankara, Turkey

Corresponding author

Bülent Ödemiş, MD
Department of Gastroenterology, University of Health Sciences, Ankara City Hospital, Bilkent Avenue, 06800, Çankaya, Ankara, Turkey
odemisbulentmd@yahoo.com

References


Bibliography

Endoscopy
DOI 10.1055/a-1887-5539
ISSN 0013-726X
published online 2022
© 2022, The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (https://creativecommons.org/licenses/by-nc-nd/4.0/)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

Video 1 A patient with Bouveret syndrome is successfully treated with endoscopic laser lithotripsy.

Endoscopy E-Videos
https://eref.thieme.de/e-videos

Endoscopy E-Videos is an open access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online. Processing charges apply (currently EUR 375), discounts and waivers acc. to HINARI are available.

This section has its own submission website at https://mc.manuscriptcentral.com/e-videos

Video 1 A patient with Bouveret syndrome is successfully treated with endoscopic laser lithotripsy.

Fig. 5 Image from the second-look endoscopy, which showed continuity of the intestinal lumen had been restored after the endoscopic laser lithotripsy procedure.

Video 1 A patient with Bouveret syndrome is successfully treated with endoscopic laser lithotripsy.