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Kun Lian, Senlin Hou, Lichao Zhang

DOI: 10.17235/reed.2023.9432/2022

Link: [PubMed \(Epub ahead of print\)](#)

Please cite this article as:

Lian Kun, Hou Senlin, Zhang Lichao. Acute cholecystitis treated by direct visualization endoscopy. Rev Esp Enferm Dig 2023. doi: 10.17235/reed.2023.9432/2022.

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## Acute cholecystitis treated by direct visualization endoscopy

Kun Lian<sup>1</sup>, Senlin Hou<sup>2</sup>, Lichao Zhang<sup>2</sup>

Departments of <sup>1</sup>General Surgery and <sup>2</sup>Biliary and Pancreatic Endoscopic Surgery.  
The Second Hospital of Hebei Medical University. Shijiazhuang, China

**Correspondence:** Lichao Zhang

e-mail: 15530173931@163.com

*Conflict of interest: the authors declare no conflict of interest.*

**Keywords:** Acute cholecystitis. ERCP. Direct visualization system. Endoscopic nasogallbladder drainage.

*Dear Editor,*

Endoscopic therapy was performed on a patient with acute cholecystitis and good results were achieved.

### Case report

A 48-year-old male presented due to upper abdominal pain for three days, aggravated with vomiting for one day. Physical examination showed strongly positive Murphy's sign and computed tomography (CT) indicated acute cholecystitis and cholestasis. The patient refused percutaneous transhepatic gallbladder drainage (PTGBD). Endoscopic ultrasound-guided gallbladder drainage (EUS-GBD) has become the first choice of treatment when the gallbladder cannot be removed due to its high surgical success rate and good prognosis. However, the patient could not afford the cost of this procedure, thus, endoscopic retrograde cholangiopancreatography (ERCP) was administered. The guide wire was inserted into the common bile duct, and the intrahepatic and intrahepatic bile ducts were

observed with a direct visualization system. Subsequently, the opening of the gallbladder duct was found, moving along the gallbladder duct into the gallbladder, where a large amount of thick bile was seen, to attract and rinse. Polyps and massive calculi were not found. Finally, the patient was treated with endoscopic nasogallbladder drainage (ENGBD). After the procedure, normal saline was used to wash, and after three days, the bile became yellowish brown and clear. The patient had no fever or abdominal pain and could eat. The gallbladder volume was significantly reduced and no deposition was observed.

## Discussion

The successful application of the direct visualization system enables the observation of the gallbladder, the last blind area of the biliary and pancreatic duct system in the direct view and effective endoscopic treatment of gallbladder diseases. This is an alternative treatment when EUS-GBD is not feasible for some reason.

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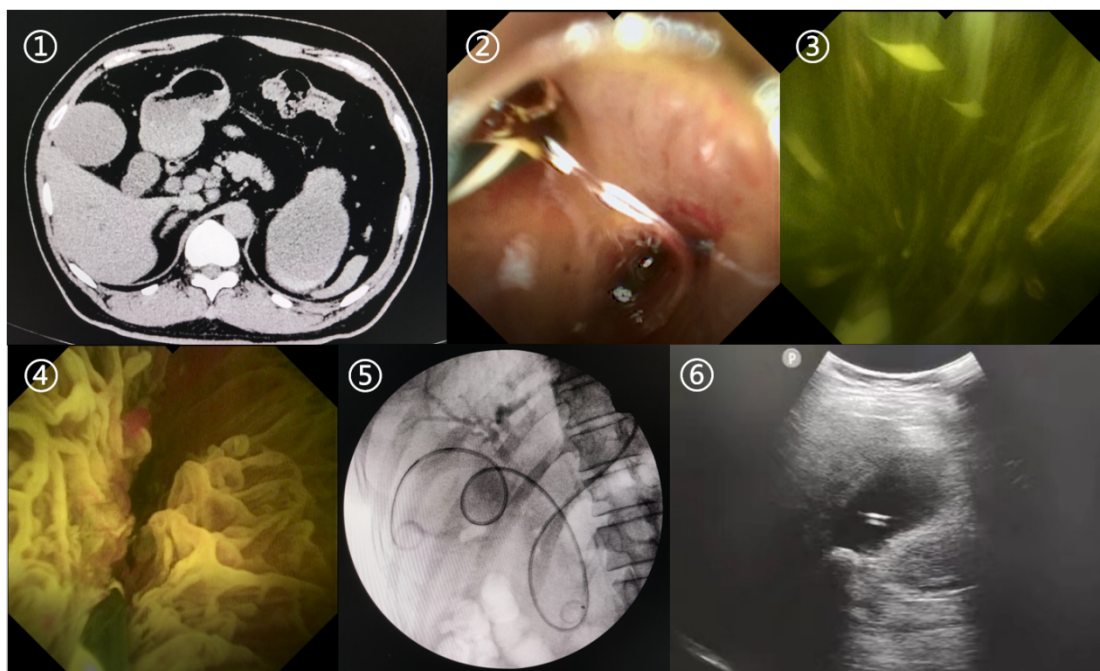


Fig. 1. A. Preoperative cholestasis, cholecystitis. B. Direct visualization system found the opening of gallbladder neck duct. C. A large amount of thick bile was found in the gallbladder. D. No polyps and calculi were found. E. Nasobiliary duct was inserted into the gallbladder. F. The volume of the gallbladder was smaller than before, and there was no obvious cholestasis.