Case Report

Emergency PTBD for cholangitic shock with severe thrombocytopenia from a retained CBD stent and distal CBD structure

Amalan[1]*, Karthikeyan[2], Kannan[3], Lakshmanan[4], Meenakshi[5], Esaki Raju[6]

[1]Consultant Interventional Radiologist, Kauvery Hospital, Tirunelveli, Tamil Nadu
[2]Consultant – Department of Surgical Gastroenterology and GI oncology, Kauvery Hospital, Tirunelveli, Tamil Nadu
[3]Consultant Anesthesiologist & Critical Care, Kauvery Hospital, Tirunelveli, Tamil Nadu
[4]Senior Consultant Anesthesiology, Kauvery Hospital, Tirunelveli, Tamil Nadu
[5]HOD, Dept of Radiology, Kauvery Hospital, Tirunelveli, Tamil Nadu
[6]Radio Diagnosis, Kauvery Hospital, Tirunelveli, Tamil Nadu
*Correspondence

Abstract

Background: Acute cholangitis complicated by septic shock carries high mortality and requires urgent biliary decompression. Percutaneous transhepatic biliary drainage (PTBD) remains a life-saving alternative when ERCP is not feasible. We report a 67-year-old patient who presented with severe cholangitic shock, multiorgan dysfunction, early acute respiratory distress syndrome (ARDS) and severe thrombocytopenia secondary to a retained and fractured common bile duct (CBD) stent. Due to failed previous ERCP attempts and distal CBD stricture, emergency PTBD was performed. Following biliary decompression and targeted antibiotic therapy for multidrug-resistant *Klebsiella pneumoniae*, the patient demonstrated significant clinical recovery. 5th day PTBD was internalised and 7 th day This case highlights the critical role of timely biliary decompression via PTBD in life-threatening cholangitis when ERCP is not feasible.

Key words: Percutaneous transhepatic biliary drainage (PTBD); *Klebsiella pneumoniae;* Acute respiratory distress syndrome (ARDS)

Citation: Amalan, Karthikeyan, Kannan, Lakshmanan, Meenakshi, Esaki Raju. Emergency PTBD for cholangitic shock with severe thrombocytopenia from a retained CBD stent and distal CBD structure. Kauverian Med J. 2026;3(6):48-51.

Academic Editor: Dr. Venkita S. Suresh

ISSN: 2584-1572 (Online)

Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions.

1. Introduction

Acute cholangitis is a potentially fatal infection of the biliary system caused by biliary obstruction and bacterial infection [1]. Severe cholangitis can rapidly progress to septic shock and multiorgan failure, requiring urgent intervention [2]. The Tokyo Guidelines 2018 recommend early biliary drainage combined with antimicrobial therapy as the cornerstone of management in severe disease [1,2]. Although ERCP is the first-line modality for biliary drainage, PTBD is an effective alternative when ERCP fails or cannot be performed [3].

2. Case Presentation

A 67-year-old patient presented in the ER with Reynolds' pentad (fever, right upper quadrant pain, jaundice, hypotension, altered mental status), septic shock, multiorgan dysfunction, and early acute respiratory distress syndrome (ARDS).

On admission:

- Respiratory rate: 38/min.
- Oxygen saturation: 90% despite CPAP support of Fi 0260%.

Laboratory investigations revealed:

- Total leukocyte count: 30,000/mm^3.
- Platelet count: 10,000/mm^3.
- Direct bilirubin: 10 mg/dL.
- Elevated alkaline phosphatase.

These findings were suggestive of severe obstructive cholangitis grade 3 with septic shock [1].

The patient had recent complaints of:

- Fever with rigors for 3 days.
- Right hypochondrial pain for 5 days.
- Rapid deterioration in general condition over the previous 3 days.

The patient had past history of choledocholithiasis, for which the patient underwent laparoscopic cholecystectomy with CBD stenting in 2021 in the outside hospital. The patient was lost to follow-up during the pandemic. When she returned in 2023 for stent removal, the CBD stent was partially removed, fractured and retained within the CBD in the outside hospital. Presently bedside ultrasound demonstrated mild to moderate intrahepatic biliary radicle (IHBR) dilatation, consistent with biliary obstruction.

Because of severe thrombocytopenia, the patient received 4 units of random donor platelet transfusion prior to intervention. High-risk consent was obtained due to severe thrombocytopenia. ERCP-guided drainage was not planned, as previous attempts to remove the retained stent had failed due to a distal CBD stricture in the outside hospital. Approximately 4 hours after admission, the patient underwent emergency PTBD at midnight. The procedure was technically challenging due to tachypnoea and severe thrombocytopenia. PTBD was performed using a 22-gauge Chiba needle with a Neff set, and an 8F pigtail catheter was placed successfully in CBD within an hour.

Following biliary drainage:

- Clinical condition improved significantly within 48 hours.
- Tachypnea reduced.

- Platelet counts improved.
- The patient resumed oral intake in 2 days.

Blood and bile cultures grew multidrug-resistant Klebsiella pneumoniae. The patient received culture-directed intravenous antibiotics for two weeks, which is recommended for severe cholangitis with bacteremia. After one week, internalization and tunnelling of the PTBD catheter were performed. During the procedure, an attempt was made to retrieve the fractured CBD stent using a 20-mm snare, but removal was unsuccessful. The patient was subsequently discharged with an internal–external PTBD catheter, with the external limb closed.

3. Discussion

Acute cholangitis results from biliary obstruction with superimposed infection, leading to systemic inflammation and sepsis 1. According to the Tokyo Guidelines, patients with Grade III (severe) cholangitis require urgent biliary drainage to prevent mortality [2].

Several factors contributed to the severity in this patient:

- Retained fractured CBD stent.
- Distal CBD stricture.
- Severe thrombocytopenia.
- Septic shock with early ARDS.

While ERCP remains the preferred treatment, it may fail in cases with difficult biliary anatomy or impacted stents [3]. In such cases, PTBD provides effective decompression and improves clinical outcomes. Studies have demonstrated that early biliary drainage significantly reduces mortality in severe cholangitis [1,2]. In this case, rapid PTBD performed within hours of admission resulted in prompt clinical improvement, despite severe physiological compromise[4].

4. Conclusion

This case highlights the importance of early biliary decompression in severe cholangitic shock complicated by thrombocytopenia and respiratory failure. When ERCP is not feasible due to anatomical or technical limitations, emergency PTBD can be lifesaving. Prompt intervention combined with targeted antibiotic therapy can significantly improve patient outcomes.

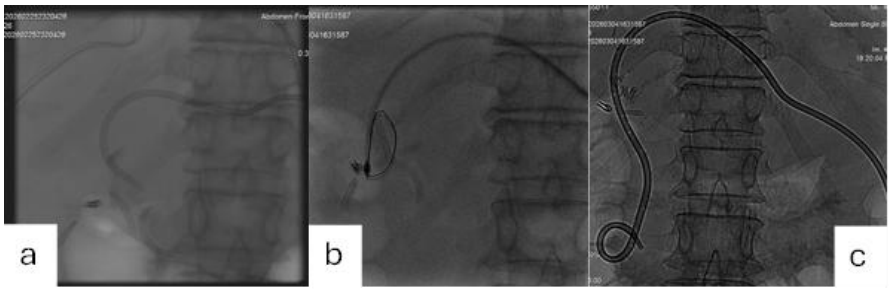

Fig (1): A: External percutaneous transhepatic biliary drainage (PTBD) catheter in CBD and broken CBD stent of 2023. B: Attempted retrieval of a broken common bile duct (CBD) stent using a snare but failed. C: Internalized 10 Fr PTBD Internal External catheter.

References

[1] Miura, F. et al. Tokyo Guidelines 2018: initial management of acute biliary infection and flowchart for acute cholangitis. J. Hepatobiliary. Pancreat. Sci. 25, 31–40 (2018).

[2] Kiriyama, S. et al. Tokyo Guidelines 2018: diagnostic criteria and severity grading of acute cholangitis (with videos). J. Hepatobiliary. Pancreat. Sci. 25, 17–30 (2018).

[3] Buxbaum, J. L. et al. ASGE guideline on the role of endoscopy in the evaluation and management of choledocholithiasis. Gastrointest. Endosc. 89, 1075-1105.e15 (2019).

[4] Weber, A. et al. Complications of percutaneous transhepatic biliary drainage in patients with dilated and nondilated intrahepatic bile ducts. Eur. J. Radiol. 72, 412–417 (2009).