
**E-ISSN: 2616-3470**
**P-ISSN: 2616-3462**

https://www.surgeryscience.com
2024; 8(1): 186-188
Received: 30-12-2023
Accepted: 03-02-2024

**Dr. R Rama Krishna Naik**
Professor, Department of General Surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

**Dr. S Sabira**
Associate Professor, Department of General surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

**Dr. J Sahrudai**
3rd Year Postgraduate, Department of General Surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

**Dr. N Ramesh Naik**
3rd Year Postgraduate, Department of General Surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

**Dr. Prathibha**
3rd Year Postgraduate, Department of General Surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

**Dr. P Md Sarfaraz**
2nd Year Postgraduate, Department of General surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

**Corresponding Author:**
**Dr. R Rama Krishna Naik**
Professor, Department of General Surgery, Kurnool Medical College, Kurnool, Andhra Pradesh, India

# A case report on unintentional gallbladder stenting during endoscopic management of choledocholithiasis found during laparoscopic cholecystectomy

**Dr. R Rama Krishna Naik, Dr. S Sabira, Dr. J Sahrudai, Dr. N Ramesh Naik, Dr. Prathibha and Dr. P Md Sarfaraz**

**DOI:** https://doi.org/10.33545/surgery.2024.v8.i1c.1069

**Abstract**
The usual course of treatment for choledocholithiasis is endoscopic retrograde cholangiopancreaticography (ERCP), which almost always entails stent implantation in the common bile duct. This case report describes an unintentional stenting of the gallbladder and cystic duct during endoscopic retrograde cholecystectomy due to choledocholithiasis. A 68-year-old man underwent ERCP with stenting and stone extraction after presenting with jaundice and pain in the right upper quadrant. He was diagnosed as Cholelithiasis with choledocholithiasis and had a laparoscopic cholecystectomy six weeks later after it was discovered that the biliary stent had been unintentionally inserted into the gallbladder and cystic duct. Through a hole made in the gallbladder, the stent was removed laparoscopically, and the cystic duct stump was cut. We are sharing this instance to raise surgeons awareness of biliary stents that are accidentally placed in the wrong place.

**Keywords:** Choledocholithiasis, endoscopic retrograde cholangiopancreaticography (ERCP), stent implantation

## Introduction
Gallstones can affect up to 15% of the general population, which is a fairly significant prevalence [1]. It is discovered that 10-18% of individuals have common bile duct (CBD) stones [1]. The majority of CBD stones have moved from the gallbladder and are secondary.
A laparoscopic cholecystectomy cannot proceed unless the chance of a CBD stone has been ruled out. With the advent of endoscopic retrograde cholangiopancreaticography (ERCP) more than four decades ago, the management of CBD stones has become less problematic [2]. While problems during ERCP can occur, including as pancreatitis, hemorrhage, and Hollow viscous perforation, they are uncommon. Stent migration and incorrect stenting into the cystic duct are also uncommon.

## Case Presentation
A 69-year-old male patient who is a known Diabetic, Hypertensive, Previous Percutaneous transluminal coronary angioplasty (PTCA) stenting for Ischemia Heart disease with Morbid obesity presented with right upper abdominal pain and jaundice ten days ago. Upon assessment, vital signs were normal and appeared icteric. There was no signs of peritonitis, just some discomfort over the right hypochondrium. Abdominal ultrasound and magnetic resonance cholangiopancreaticography (MRCP) diagnosed cholelithiasis and choledocholithiasis with a distal CBD calculus of 12 mm. Patient had a successful ERCP with stone extraction and biliary stenting. The patient's symptoms were eased after the surgery, and they were sent home to await their cholecystectomy.
After six weeks, he was readmitted for elective laparoscopic cholecystectomy. A stent was in place in the CBD and a reduced gallbladder with cholelithiasis was discovered on a repeat ultrasound. He had a routine laparoscopic cholecystectomy with four ports. There were many adhesions in the Calot's triangle area during the surgical procedure due to chronic cholecystitis. The cystic duct was discovered to be stiff during Calot's dissection. Cystic duct was identified, clamped with metallic clips and is cut. Stent was noted on cutting the duct.

It is thought of common bile duct and sutured the partially cut Common bile duct with 4-0 vicryl laparoscopically. Gall bladder was approached with Fundus approach and opened at the fundus and stent was noted inside the Gallbladder (Fig. 1). The biliary stent was found to be inside the cystic duct and was entering the gallbladder. It was removed via the gallbladder, and the cholecystectomy was then finished after clipping the cystic duct again.

The patient's postoperative period was uneventful, and on the third postoperative day, patient was discharged and followed up without any complications.

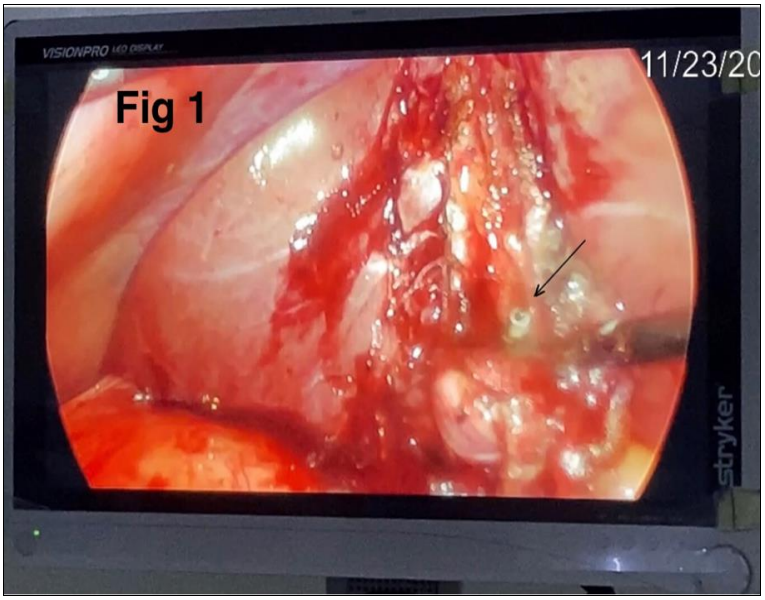


**Fig 1:** Stent noted in the Gallbladder after opening Fundus, Arrow: Showing stent inside gallbladder

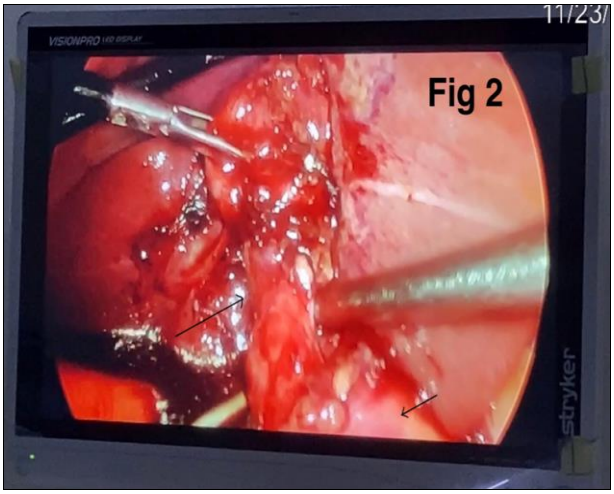


**Fig 2:** Long Arrow: Cystic duct, Short Arrow: Common Bile duct

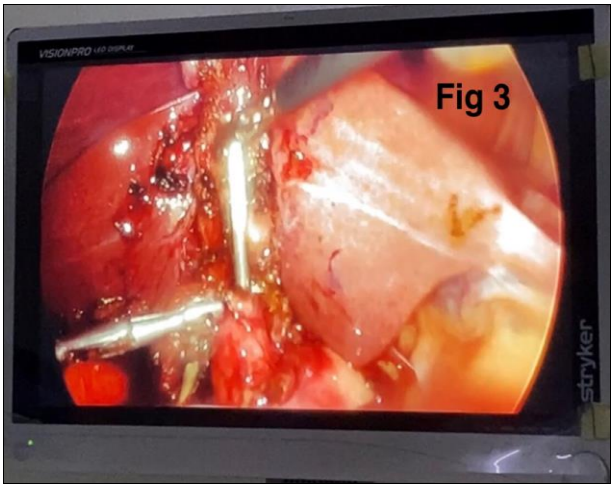


**Fig 3:** Stent removing through Cystic duct

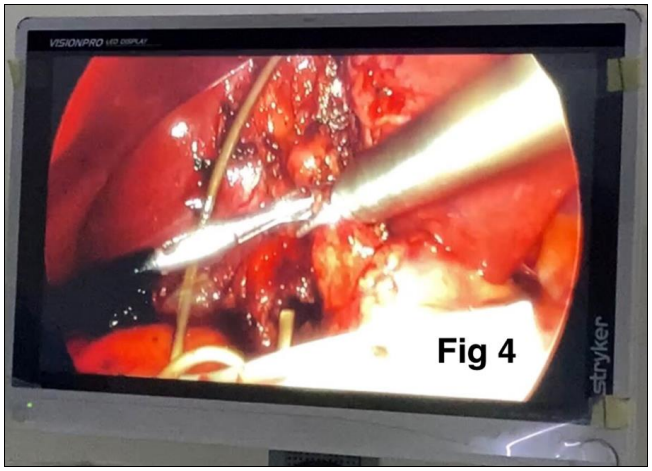


**Fig 4:** Clipping of Cystic duct after removing stent.

## Discussion

Nowadays, the first line of treatment for some choledocholithiasis cases is ERCP combined with biliary stenting. It entails sweeping out the stones after either a balloon dilatation or a sphicterotomy of the common bile duct [2].

Usually, a biliary stent is implanted to stop strictures or recurrences. Depending on standards, these individuals who undergo ERCP can have a laparoscopic cholecystectomy either within 48 hours or after 6 weeks [4]. Even while ERCP problems are well-documented, some are uncommon and poorly understood [5]. One such consequence is unintentional biliary stenting into the cystic duct and gallbladder; none to very few occurrences have been documented [6]. Another documented ERCP consequence that is uncommon is stent migration. Both distally into the intestinal lumen and proximally into the hepatic ducts are possible sites of stent migration [7, 8].

This report details the problem of unintentional biliary stenting into the gallbladder and cystic duct, which was discovered later

on during laparoscopic cholecystectomy. While this is not a life-threatening consequence, it is nonetheless vital for the surgeon to be aware of these kinds of events since they can cause issues while ligating the cystic duct during a cholecystectomy. If a surgeon discovers this during surgery, the best course of action is to complete the cholecystectomy as described in our case report and then perform a laparoscopic stent extraction from a gallbladder tear. Repositioning the stent can be attempted with no negative effects with a repeat ERCP and stenting if it is detected preoperatively through any radiological investigation.

## Conclusion

Surgeons must be aware of the risk of unintentional biliary stenting into the gallbladder and cystic duct in order to prevent unexpected surgical outcomes during interval laparoscopic cholecystectomy after endoscopic retrograde choledocholithiasis.

## Conflict of Interest

Not available.

## Financial Support

Not available.

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**How to Cite This Article**
Naik RRK, Sabira S, Sahrudai J, Naik NR, Prathibha, Sarfaraz MP. A case report on unintentional gallbladder stenting during endoscopic management of choledocholithiasis found during laparoscopic cholecystectomy. International Journal of Surgery Science. 2024;8(1):186-188.