



Endoscopic Retrieval of a Proximally Migrated Biliary Stent Using Digital Cholangioscope

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Abstract

Migration of biliary stent occurs infrequently. Retrieval of migrated biliary stent can be challenging. We report a case of successful retrieval of proximally migrated biliary stent using digital cholangioscope.

Keywords: *Endoscopic retrograde Cholangiopancreatography, Cholangioscope, Duodenoscope, Stent*

Case Reports

A 68 year old man was admitted to the hospital with worsening epigastric abdominal pain, nausea, vomiting and elevated liver enzymes. His cross sectional imaging showed 6 mm stone in the dilated bile duct (Fig.1). No stones were seen in the gallbladder. His blood work showed leukocytosis WBC 18,590/mm³, Bilirubin was 2.9 mg/dL, ALT was 126 IU/L. He underwent endoscopic retrograde cholangiopancreatography (ERCP) for removal of common bile duct stone. At the time of the procedure sphincterotomy was performed and the stone was removed using stone extraction balloon. Temporary plastic stent was placed at that time (Fig.2) and the patient underwent successful cholecystectomy a day following this procedure. Four weeks later endoscopic retrieval of the stent was done. At that time the stent was not seen through the major ampulla (Fig 3). X ray of the abdomen confirmed the migration of the biliary stent to the right hepatic duct and the distal end was in the common hepatic duct (Fig.4) We used digital cholangioscope (SpyGlass DS II, Boston Scientific, MA, USA) and using a forceps (Spybite, Boston Scientific, MA, USA) through the cholangioscope the stent was successfully removed (Fig 5-7).

Migration of biliary stent rate is 5 to 10% of patients and plastic biliary stent in particular occurs in 13.5% of the time¹. The risk factors for the migration include bile duct stricture, dilation of the bile duct and straight long stents¹. Migrating stent may result in biliary obstruction and or infection. Retrieval of migrated stents are done using endoscope and rarely requires surgical intervention. Various techniques have been described in removal of migrated stents namely balloons, baskets, foreign body forceps²⁻⁴ and via cholangioscope using forceps or snare. In our patient we used forceps through the cholangioscope. This enabled direct visualization of the migrated stent and quick retrieval and the patient was discharged home the same day without any adverse event.

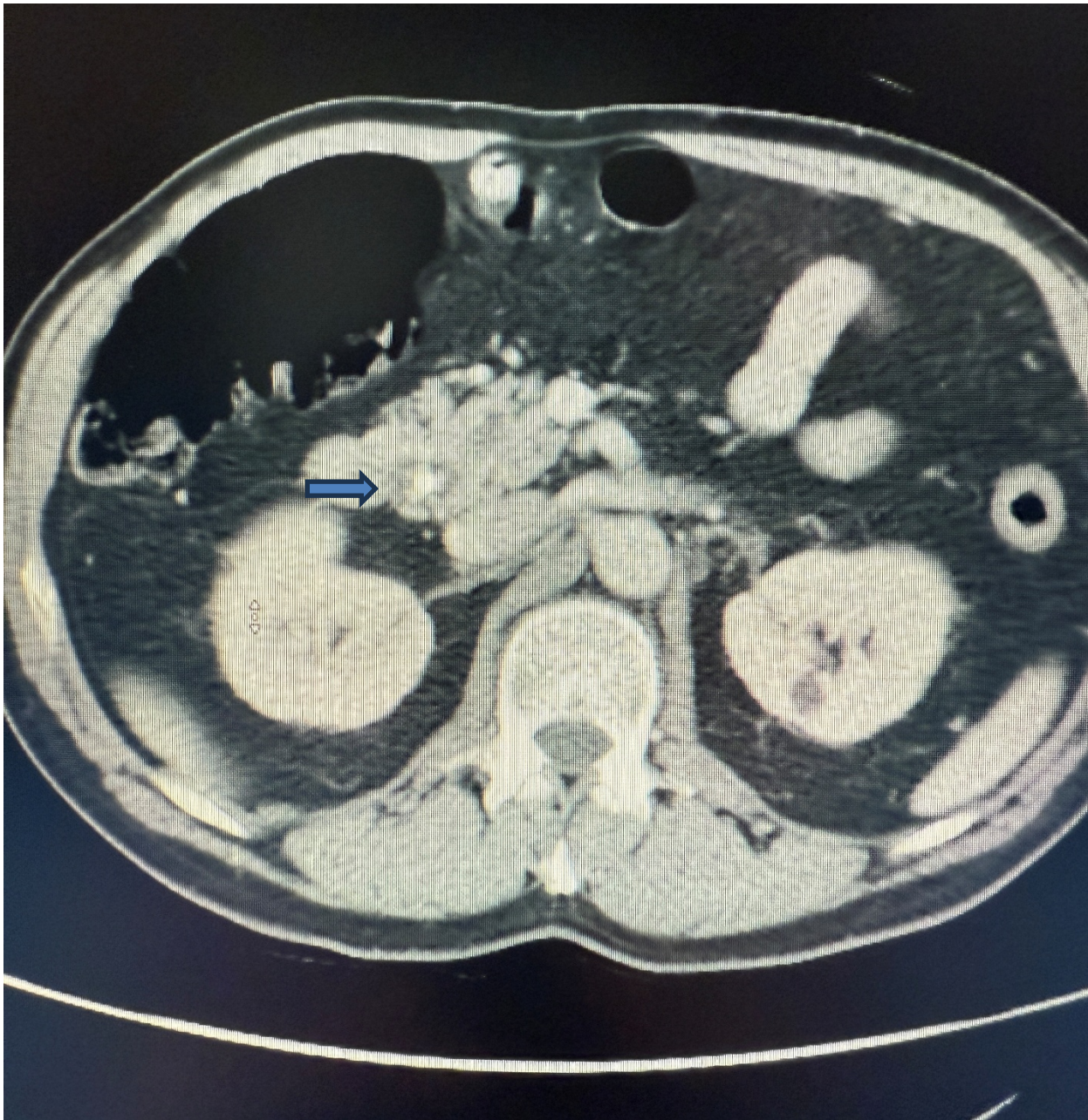


Fig.1. CT scan image green arrow showing dilated bile duct with bile duct stone

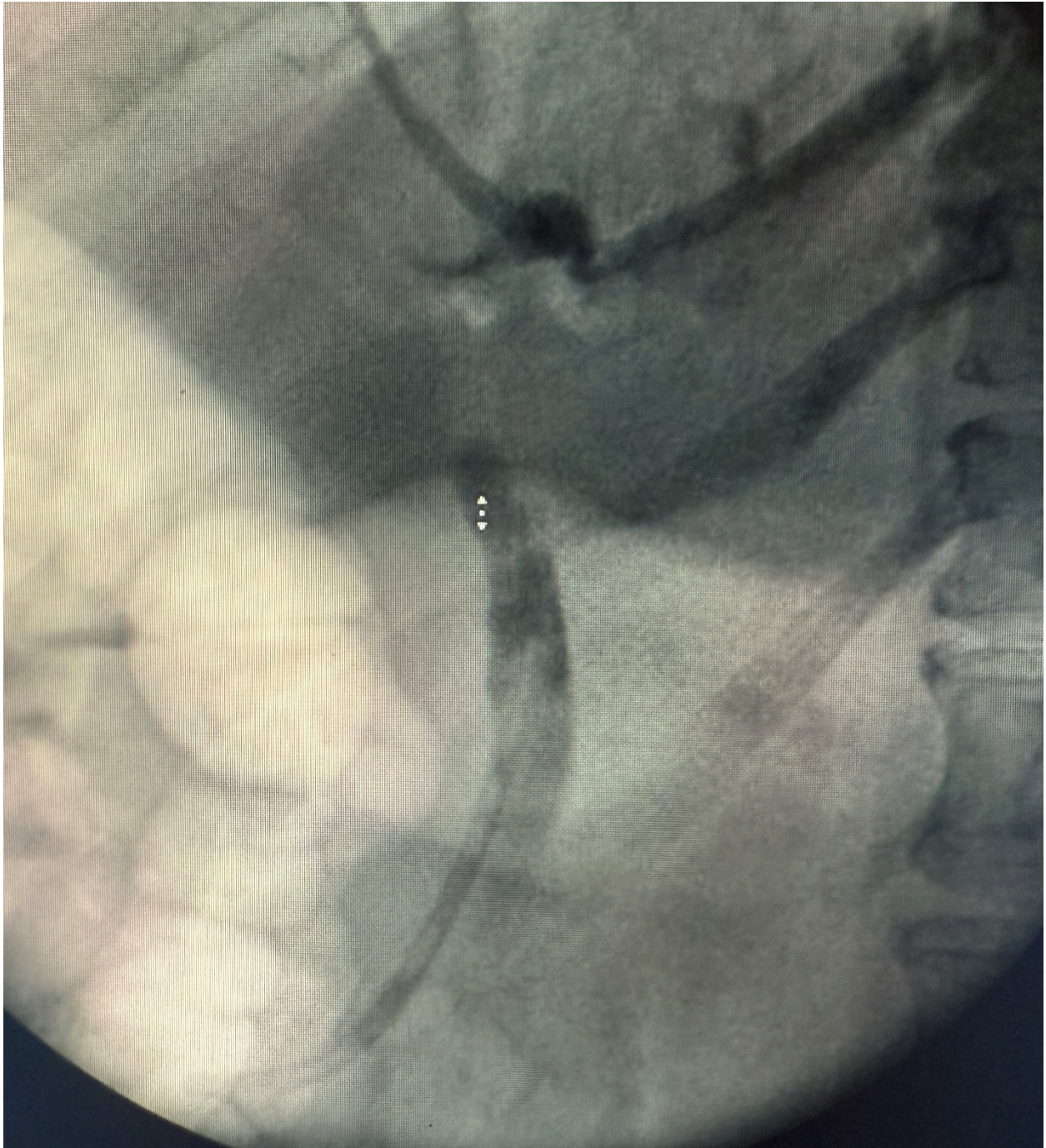


Fig.2. Plastic biliary stent placed in the bile duct following the removal of stone from the bile duct.

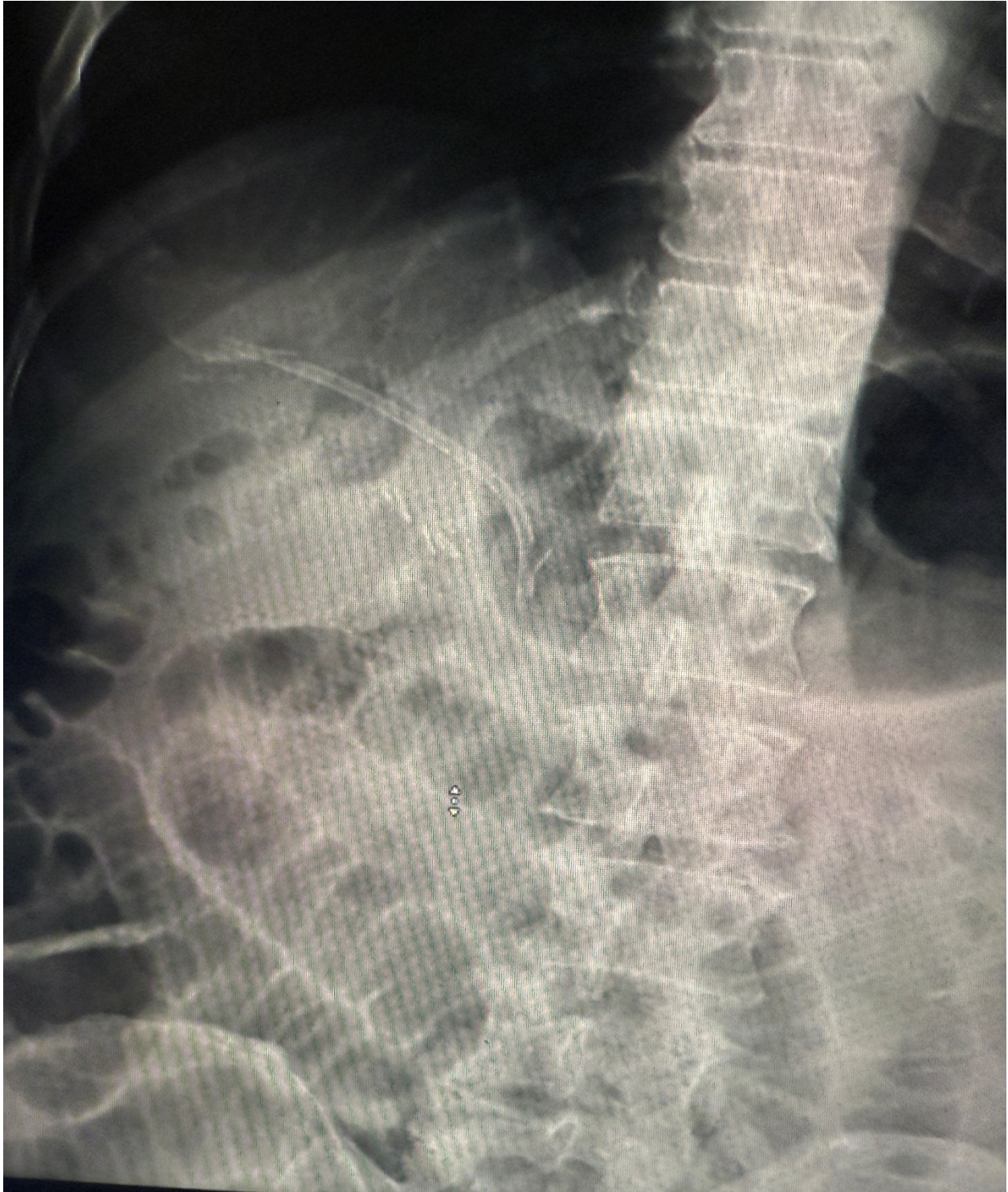


Fig.3. Migrated biliary stent into the right hepatic duct



Fig.4. The stent was not seen traversing the major ampulla



Fig.5. The distal end of the migrated stent in the common hepatic duct seen via cholangioscope.

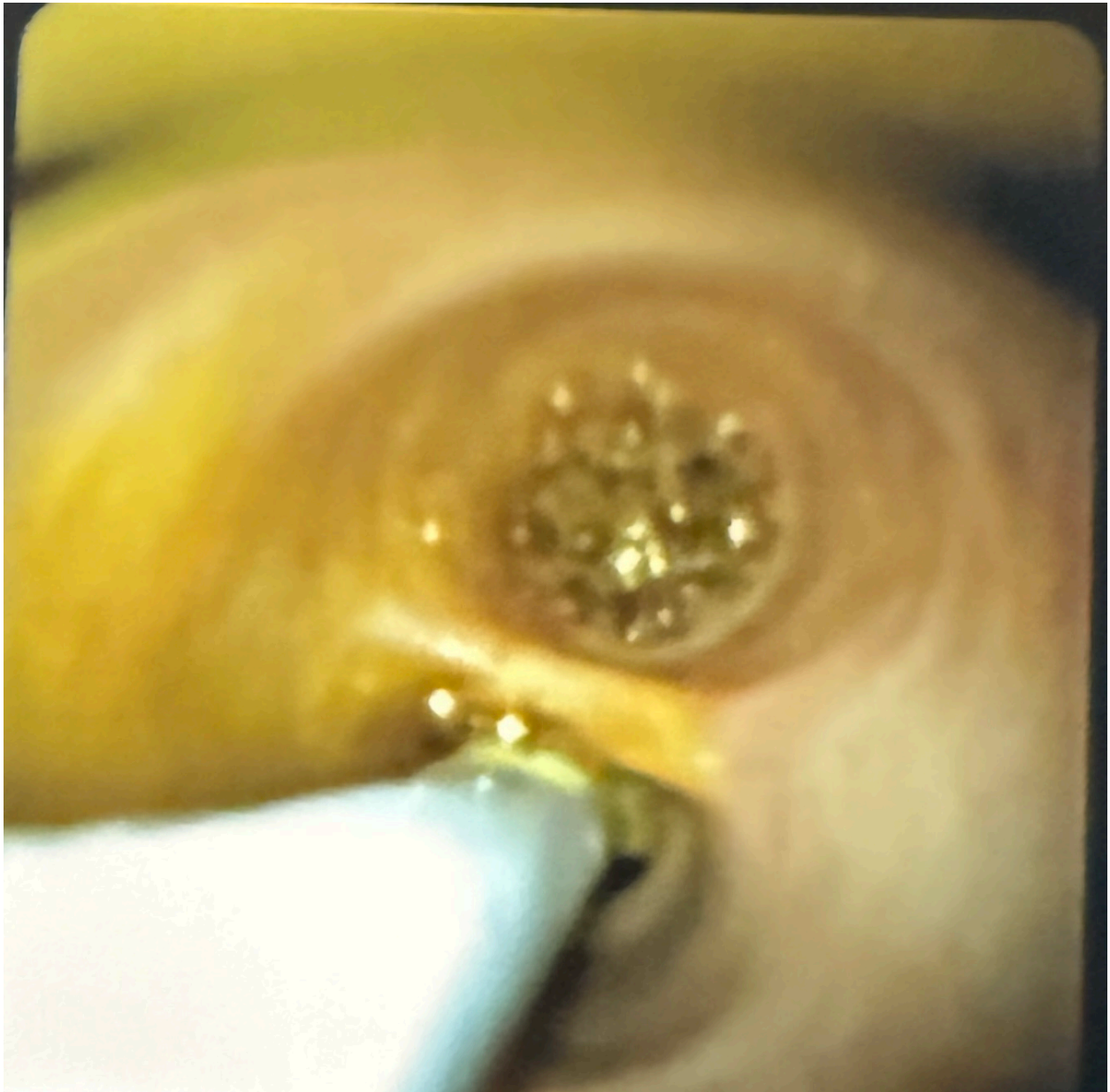


Fig.6. Cholangioscope showing migrated biliary stent in to the right hepatic duct.



Fig.7. The migrated stent being removed using a forceps (spybite) through the cholangioscope

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