

Post-ERCP cholangitic liver abscess rupture causing Pneumo peritoneum: A unique case

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Abstract: Endoscopic retrograde cholangio-pancreatography is a procedure used for management of varied pancreaticobiliary disorders and biliary drainage. The occurrence of free air in the peritoneal cavity post-ERCP is a rare event (< 1%), which is usually the result of duodenal or ductal perforation related to therapeutic ERCP with sphincterotomy. We present a case of post ERCP pneumo peritoneum due to rupture of cholangitic abscess, which has never been described in the literature before. This case highlights the need of knowledge of pneumo peritoneum post ercp due to ruptured cholangitic abscess. Presence of pneumo peritoneum may give an impression of perforation of duodenum post ERCP and patient may be taken for Exploratory Laparotomy which can be otherwise tackled by just putting drains under local anaesthesia. These patients are having septicaemia and their condition is not good enough to sustain general anaesthesia.

Keywords: ERCP, long standing indwelling biliary stent, Ruptured cholangitic abscess, Perforative peritonitis

INTRODUCTION

Endoscopic retrograde cholangio pancreatography (ERCP) and sphincterotomy are increasingly used in the diagnosis and management of patients with pancreaticobiliary diseases, carrying a lower morbidity and mortality rate than surgery [1]. Post-ERCP complication rates vary widely depending on the complexity of the intervention and the individual patient characteristics. Pneumo peritoneum occurring after ERCP is usually a sinister sign of bowel or ductal perforation [2]. We describe a case of biliary peritonitis with pneumo peritoneum due to rupture of cholangitic liver abscess, in a 35-year-old female undergoing ERCP.

CASE REPORT

A 35 years female presented to emergency department with pain and distension of abdomen since 2 days with vomiting and fever since 1 day. Two weeks back she was admitted with us for complaints of pain in the right hypochondriac area for 7-8 days. She was jaundiced, clay coloured stools and itching all over the body. She was a known hypertensive, Ischemic heart disease, diabetic and hypothyroid on treatment. She does give history of undergoing some endoscopic procedure 4 years back, but no documents were available. Total Bilirubin was 4.5mg with direct bilirubin -3.1mg and hepatic enzymes were minimally raised. X-ray of the abdomen showed a biliary stent in the right upper quadrant of abdomen. Ultrasonography showed cholelithiasis with choledo cholithiasis and

dilated CBD and biliary stent. She was subjected to ERCP. Previously placed stent and 2 stones were removed by balloon sweeps after doing endoscopic sphincterotomy and new stent was placed. Post procedure course was uneventful and patient was discharged two days later. The patient came to us 2 weeks later in emergency.

On clinical examination she was hypotensive with her blood pressure being around 84/60 mm of Hg, and pulse rate of 110/ min, Respiratory Rate- 26 breaths / min and course crepitations on chest auscultation. Abdominal examination revealed generalised abdominal distension with diffuse tenderness and guarding all over the abdomen. Leucocytosis-27000/mm, bilirubin -1.4 mg%, X rays of chest and abdomen were inconclusive. An abdominal ultrasound showed gross ascites with internal echos, a hypo echoic lesion in segment III of liver with multiple internal echoes with cholelithiasis with dilated CBD. Patient was resuscitated and an urgent CT scan abdomen was performed. It demonstrated presence of free air in the peritoneal cavity, mainly peri-hepatically. Also a large extensively necrotic intrahepatic lesion touching the glissons capsule in segment III of liver, suggestive of an abscess with multiple air foci within, which was found to have ruptured resulting in a sub-diaphragmatic collection (Fig 1, 2).The CBD was dilated with stent at the proper position and there was pneumobilia of the common bile duct. Gross ascites was present. A

diagnosis of ruptured liver abscess with pneumo-peritoneum was made.

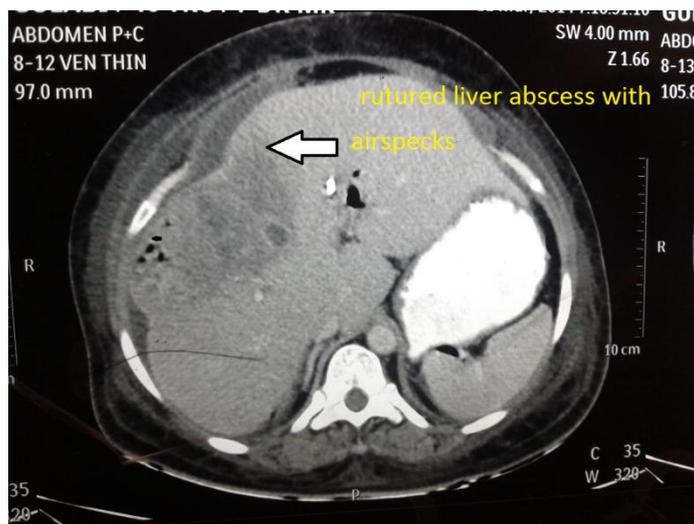


Fig 1: CT scan: Coronal Section showing air in liver abscess with peri-hepatic collection with pneumo-peritoneum



Fig 2: CT scan of Abdomen: Sagittal cut showing air in cholangitic liver abscess which is ruptured with stent in CBD and Duodenum and fluid in peritoneal cavity tracking from liver abscess.

Bilateral abdominal drain insertion under local anaesthesia was performed. Around 700 ml of bile with pus flakes was drained through the abdominal drains. She was started on higher antibiotics. Patient improved vitally with adequate urine output and was given parenteral nutrition. On 4th day, USG guided pigtail catheter was inserted in the abscess cavity and 50 cc frank pus drained. Gradually the patient improved and was discharged on day 17.

DISCUSSION

Endoscopic sphincterotomy and stone extraction are widely performed as the primary

treatment methods for the same, with an 80% to 90% success rate and a complication rate of less than 10% [3]. In such cases the endoprosthesis is usually removed after 6 weeks. However long-term indwelling biliary endoprosthesis or forgotten stents are associated with increased risk of recurrent cholangitis, which is reported in 3.5% to 40% of patients [4].

Major complications of ERCP include pancreatitis, hemorrhage, cholangitis, and duodenal perforation [5, 6]. Given that the overall incidence of duodenal and common bile duct perforations is about 1% and most of these cases (80%) have retroperitoneal

perforations causing pneumo-retro peritoneum, it becomes apparent that post-ERCP pneumo peritoneum is a very rare but known complication[5].

Our patient had an indwelling biliary stent for almost four years. She developed obstructive jaundice due to choledo cholithiasis for which ERCP was done, which highlights another complication of long indwelling stents i.e. biliary stone formation. Bacteria can enter the biliary tract either by haematogenous route or retrograde route. Patients with normal biliary tract, anatomical barrier impede both these routes. In contrast, patients who are immunocompromised or who have obstruction of biliary system have impaired bacterial defence making them susceptible for infection [7]. The forgotten stent may have made the patient prone to development of cholangitic abscess. The pneumo peritoneum probably must have resulted due to air leakage from damaged bile ducts within the ruptured peripheral large cholangitic abscess following increased pressure in intrahepatic bile ducts and pneumobilia after ERCP. The abscess must have ruptured because of tissue friability due to cholangitis. CT scan of abdomen was helpful in excluding ERCP-related bowel perforation.

As far as we know this is for the first time that such an etiology for post ERCP pneumoperitoneum is being described. And thus no previous experience in management of such an unusual complication is available. The purpose of our article is two things-

1) Patient had developed pneumo-peritoneum due to rupture of cholangitic liver abscess post ERCP, leading to biliary peritonitis and septicaemia, such complication is not yet reported in the literature.

2) This patient was a very high risk for general anaesthesia and exploratory laparotomy due to hypertension, Ischemic heart disease, diabetes, and hypothyroidism and may have not survived if undergone a major surgical procedure. CT scan is very helpful in giving the exact diagnosis and averts a major surgical exercise. We treated the patient by just inserting 32 Fr. Catheter drains under local anaesthesia and the patient sustained the procedure well. So this message to the surgeons that such conditions should be assessed by proper clinical and diagnostic evaluation and appropriate procedure to be done rather than rushing the patient for major surgery.

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