CASE REPORT

Post ERCP Surgical Emphysema

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Abstract

Endoscopic Retrograde Cholangio Pancreatography(ERCP) is increasing in popularity due to its obvious advantages. Therefore, as treating physicians and surgeons, we ought to be aware of not only its common but also uncommon complications. We report here a case of post-ERCP surgical emphysema on the right side extending from the umbilicus to the face.

Key Words

ERCP complications, Post-ERCP Surgical emphysema, Perforation

Introduction

ERCP is becoming a frequently used therapeutic and diagnostic intervention for diseases of biliary-tree ranging from CBD calculi, obstructive tumours, management of bile duct injuries and more. ERCP has many complications and surgical emphysema is one, albeit a rare one (1-3).

Case Report

A 35 years old female post-cholecystectomy and choledochotomy patient presented to OPD with pain, jaundice and fever of two weeks duration. The patient also complained of passing clay-coloured stools. On examination the patient was febrile, deeply jaundiced, with tenderness in the right hypochondrium. There was nothing else remarkable in the examination but the relevant lab values were SGOT 62u/l(0-35u/l), SGPT 94u/l(0-35u/l), GGTP 297u/l(0-30), Bilirubin (total) 17.04mg/dl(0.1-1.0mg/dl), direct 12.12mg/dl(0-0.2mg/dl), indirect 4.92mg/dl(0-0.8mg/dl), alkaline phosphatase 674.9u/l(30-120u/l), TLC 16,470/cumm(4,000-11,000/cu/mm), DLC- N75 E3 B0 M2 L20,. Pre-ERCP ultrasound shows slightly dilated common bile duct, some debris in upper CBD, lower CBD not well seen due to adhesions at porta. We diagnosed her as a case of obstructive jaundice and planned an therapeutic ERCP with stenting if required. On endoscopy of the 2nd part of duodenum a periampulary diverticula was seen. The papilla of vater was stenosed and hardly visible, thus a pre-cut of the papilla was done. Selective contrast CBD cannulation done. The cholangiogram revealed a tight stricture at the level of porta. A guide wire was negotiated with great difficulty across the stricture. A 7Fr into 7cm double pigtail biliary stent was placed across the stricture.

Post-ERCP the patient was doing well in the recovery ward for the first twenty minutes until she started complaining of sudden, severe pain over the right upper abdomen. Within another ten minutes the pain progressed in the cephalad direction and the skin on the right side of her body above the umbilicus became glossy, tense, tender, distended and crepitus could be appreciated from the umbilicus upwards till the forehead. The patient's was immediately shifted to our casualty wing. The patient's vitals were stable. A nasogastric ryle's tube inserted. She was kept NPO and intra-venous fluids were administered. She was given antibiotic cover with ampicillin 500mg i.v qid. Skiagrams of the abdomen, chest, neck and head taken (Fig 1-3). The ryle's tube started draining bilious fluid. The patient recovered completely over one week with conservative management. The lab values on 3rd day post-ERCP were Bilirubin Direct 3.0mg/dl, Indirect 1.2mg/dl, alkaline phosphatase 485u/l, SGOT 39u/l, SGPT 38u/l.

Discussion

ERCP, like any other interventional procedure, has its own gamut of complications. The common complications of ERCP are post-ERCP pancreatitis, perforation either

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by the endoscope or by therapeutic dilatation or incision, bleeding, infections, cardio-pulmonary or sedation related complications (1,2,3). Amongst all the above-mentioned

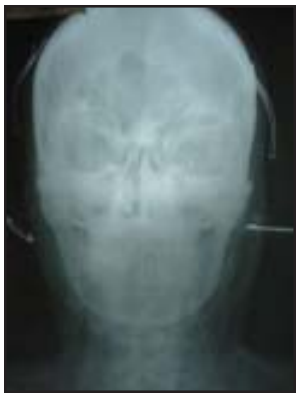

Fig-1: X-ray AP View of Skull Showing Subcutaneous Emphysema in Neck, Face, end Temporal Lesion

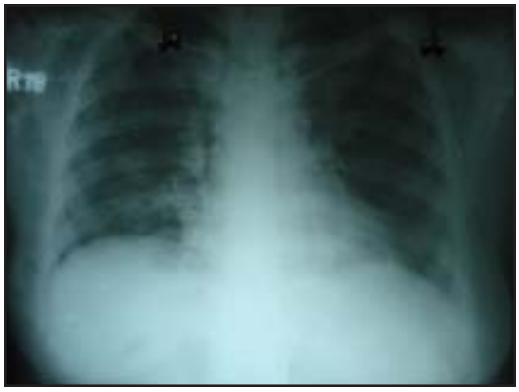

Fig-2 : X-ray Chest PA View Showing Subcutaneous Emphysema on Right Hemithorax

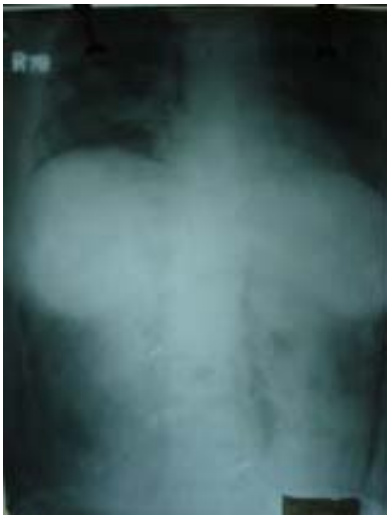

Fig-3: X-ray Abdomen & Chest AP Showing Subcutaneous Emphysema in Right Side of Abdominal wall

complications post-ERCP pancreatitis is the only operator-independent complication with an incidence of 2-9% even in expert hands (1,3). Surgical emphysema is one of the rare and dramatic complications of ERCP (1,3,4). The endoscopist must be prepared to recognise it immediately and refer it to a surgeon who will usually manage it conservatively. Early surgery is only recommended if the primary biliary pathology demands so. Most surgical explorations are in hindsight seen as futile laprotomies where all that can be done is placement of retroperitoneal drains (3). Surgical emphysema is usually associated with sphincterotomy-related retroduodenal perforation, the incidence of which is less than 1% in most recent case studies. Perforation becomes more common if a pre-cut of the ampulla is performed (1). Perforation may be expected if abnormal anatomy is encountered and if sufficient air leaks through the perforation it may be picked up on fluoroscopy as air around the right kidney and inferior surface of liver. A plain x-ray of the abdomen may show retroduodenal air but a CT scan of the abdomen is more conclusive and should be done within the first 24 hours (3). Emphysema is usually limited to the upper abdomen and thorax but literature even reports emphysema of the scrotum, the neck, and even the face as seen in our case (4). This condition entails an assured prognosis. If in the late period of convalescence the patient develops a fluid cavity or abcess a surgical or non-surgical intervention may be required. Endoscopic clipping of the perforation has also been described, and will prevent the subsequent formation of surgical emphysema (1,2).

Conclusion

Post-ERCP surgical emphysema is a rare cause of acute abdomen. It ought to be kept in mind amongst the differential diagnosii because it can be adequately managed conservatively and an unnecessary laprotomy can be prevented eventhough the presentation is dramatic.

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