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A Rare Case of Iatrogenic Splenic and Tail of Pancreas Injury by Thoracentesis: A Case Report

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Abstract

Thoracentesis is an invasive procedure used for diagnostic and therapeutic purpose to remove air or fluid from the pleural space. Iatrogenic splenic injury occurs due to thoracentesis which is a rare complication. Spleen is the most commonly injured organ in blunt abdominal trauma. Spleen injury occurs most commonly due to road traffic accidents, blunt and penetrating injuries. Here we describe a case report of a 45years old male patient who was admitted in our hospital for which iatrogenic injury occurred in Spleen involving Tail of Pancreas due to left lung thoracentesis. So awareness is needed among health care professionals to avoid this complication.

Keywords: Iatrogenic Splenic Injury; Thoracentesis; Splenectomy

Introduction

Thoracentesis is an invasive procedure used for diagnostic and therapeutic purpose to remove air or fluid from the pleural space. Complications of Thoracentesis are pneumothorax, pulmonary oedema, respiratory distress, air embolism, bleeding, injury to soft tissues, infection. Iatrogenic splenic injury involving Tail of Pancreas due to thoracentesis is a rare complication. Spleen is most commonly injured organ in blunt abdominal trauma, usually following road traffic accidents, blunt and penetrating injuries. Iatrogenic splenic injury usually related with abdominal surgical procedures like colonic surgery, colonoscopy, ERCP. Here we present a patient who developed Splenic injury involving Tail of Pancreas for whom Emergency Laparotomy with Splenectomy and Distal Pancreatectomy done. We also update the management of this rare complication.

Case Report

A 45years Male Patient came to hospital with complaints of Fever, Breathlessness, facial Puffiness and decreased urine output is present. Known diabetic for last 5years, under medications. History of chronic alcohol is present for more than 10 years. On examination: vitals stable, B/L Pitting pedal oedema present. Respiratory system - B/L air entry present, Per abdomen - soft, bowel sounds present, Tenderness present in right loin region. Provisional diagnosis is Urinary tract infection, acute pyelonephritis, Type2 Diabetic mellitus, Acute on chronic disease. Baseline investigations were done. USG Abdomen showed Perinephric fluid collection on the left side. CT-Abdomen showed features of Left Pyelonephritis, Renal Function Test showed elevated Serum Creatinine level. Nephrology

opinion was obtained in view of the same and started on IV Antibiotics. Patient developed Breathlessness and desaturated, in view of the same, patient shifted to ICU and started on NIV and Diuretics. CT-Chest showed old fibrotic changes and B/L Pleural Effusion. Pleural tapping was done. Patient general condition improved, hence shifted to ward. Patient complained of abdominal pain and abdominal distension. USG Abdomen was advised for the same and showed Gross Ascites. Hence Ascitic fluid tapping was done under ultrasound guidance. As the Ascitic fluid was Haemorrhagic, CT Angiogram done (FIG.3) and confirmed the site of bleed from splenic vessels. General Surgery opinion obtained and planned for Emergency Explorative Laparotomy.

Intra-operatively, patient was found to have Hemoperitoneum, blood clots near Splenic flexure, postero-lateral border rupture of Spleen, oozing from Pancreatic Tail and Bed. Primary closure was attempted but was not possible due to the friability of artery. Splenectomy (FIG.1) and Distal Pancreatectomy (FIG.2) with Splenic vessels ligation was done. Intra-operatively, blood transfusions of PRBC, Platelets and Fresh Frozen Plasma done.

Post-operatively, patient shifted to ICU on Intubation and strict monitoring of vitals, Input/Output, Drain tube, Ryle's tube, Complete Blood Count, Capillary Blood Glucose, Arterial Blood Gases, Renal Function Test and PT-INR done and patient managed with appropriate antibiotics and supportive medications. Nephrology review obtained in view of decreased urine output and Chronic Kidney Disease. Patient started on Hemodialysis and orders followed.

Patient was extubated on POD#1. Blood transfusions done as needed as guided by serial Complete Blood Count monitoring. Prophylactic vaccinations done as per guidelines. Patient recovered well and discharged on POD#6.

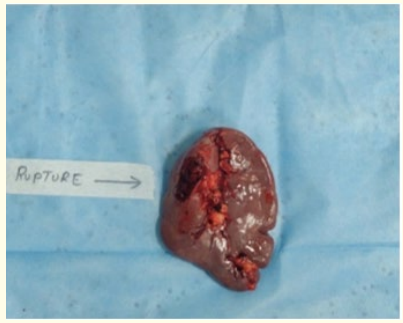

Figure 1: Splenectomy.

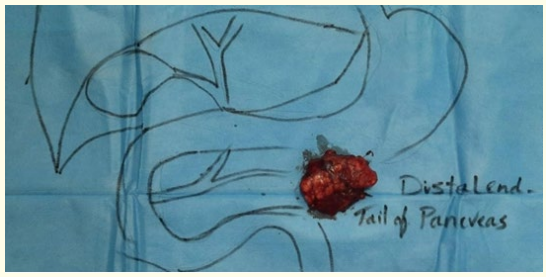

Figure 2: Distal Pancreatectomy.

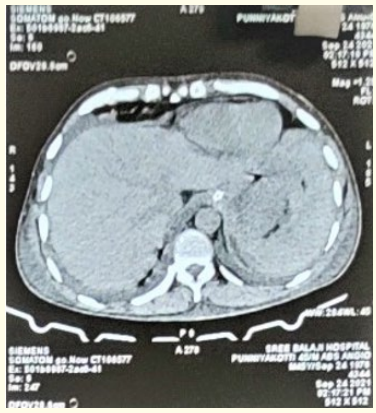

Figure 3: CT-ANGIOGRAM.

Discussion

Thoracentesis related splenic injury is a very rare complication indeed the most common major complication related thoracentesis is Pneumothorax. Injury to spleen occurs if thoracentesis performed too low below the triangle of safety. Spleen in an organ present in left hypochondrium of abdomen. Spleen weights approximately 75-150grams which is highly vascular organ.

Signs and symptoms of splenic injury is non-specific, most commonly they represent as abdominal pain with distension [9]. If spleen gets injured, it often leads to severe bleeding and shock that requires emergency management. Gold standard for diagnosing splenic injury is CECT Abdomen scan in a stable patient where as in unstable patient it is made intraoperatively [11]. Well surgery attempts to preserve the spleen is made because of increased risk of Overwhelming post splenectomy infection [8]. In our scenario the patient presented with severe abdominal pain and abdominal distension after 24hours of thoracentesis. Initially we suspected ascites for which ultrasound ascetic fluid tapping was done on which blood is drained, so we suspected Hemoperitoneum and shifted the patient to operation theatre for Emergency Laparotomy. Intraoperatively, spleen is injured along with Tail of Pancreas.

Conclusion

From this case report, we highlight the importance of awareness among health care professionals to avoid such complications. CECT is the gold standard investigation to identify splenic injury in a stable patient. Early diagnosis and management is mandatory to avoid morbidity and mortality.

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