Case Report

Suprahepatic Inferior Vena Cava and Internal Jugular Vein Thrombosis: A Rare Complication Of Pancreatitis: Case Report

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Abstract

Vascular thrombosis of portal veins and splenic vein due to pancreatitis has been described. Involvement of suprahepatic inferior vena and internal jugular vein is a rare complication of acute pancreatitis. Here we report a case of suprahepatic inferior vena cava thrombosis and internal jugular vein thrombosis in an alcoholic patient presented with acute pancreatitis.

Key words: Internal Jugular Vein, Pancreatitis, Suprahepatic Inferior Vena Cava, , Vascular Thrombosis

Introduction

Pancreatitis is an inflammation of pancreas and it could be either acute or chronic. There are many complications occurring due to pancreatitis and vascular thrombosis is one of them. In vascular thrombosis involvement of splenic vein, portal veins and superior mesentric vein is more common [1,2]. Only few cases have been reported of inferior vena cava thrombosis in patient with pancreatitis without involvement of splanchnic veins [3,4,5]. Involvement of inferior vena cava along with portal vein thrombosis has been reported [6]. Here we are presenting a case of alcoholic pancreatitis having ascites, right sided pleural effusion with thrombosis of suprahepatic inferior vena cava and thrombosis of internal jugular vein without involvement of portal vein, splenic vein and superior mesentric vein.

Case report

18 years old male patient presented to us with complaints of dry cough and right lower chest pain, abdominal pain and dyspnea on exertion since one week. Patient did not have complaint of nausea, vomiting, abdominal distension and fever. Patient was alcoholic since 2-3 years. On admission patient was tachypnic having respiratory rate of 24 / min and heart rate 100/ min, blood pressure 118/70 mm of Hg. On general examination his neck veins were distended on right side. There was no cyanosis, jaundice, clubbing, lymphadenopathy, pedal edema. On systemic examination air entry was decreased in right side of the lung and abdominal tenderness was present. On investigation his Hb was: 8.3%, Total and Differential white blood cell counts were within normal limit. Platelet counts 2,97,000/ Cu/mm, serum LDH was 550 U/L, RBS, calcium, renal function test and liver function test were within normal limit. Patient's serum amylase was 1088 u/l and serum lipase was 425 U/L. His HIV and hepatitis markers and sickling test were negative. His coagulation profile showed PT 27.40 sec, APTT 52.80 sec and INR 2.1. Pleural fluid was exudative with pleural fluid amylase was 37700 u/l and fluid lipase was 39950 u/l, pleural fluid cytology was negative for malignancy and culture for microorganism was negative.

Chest x-ray suggestive of right sided gross pleural effusion with shifting of mediastinum towards opposite side. His CT thorax and abdomen-pelvis with contrast showed bulky pancreatic body with peri –pancreatic fat stranding representing acute pancreatitis. Well defined wall enhancing fluid density cystic lesion arising from distal body of the pancreas extending cranially in midline along the medial aspect of the caudate lobe abutting the supra hepatic IVC with hyper dense contents within representing hemorrhagic pseudo cyst of pancreas. Another similar lesion in the lesser sac may also represent pseudo cyst. Hypo dense thrombus in suprahepatic IVC causing significant luminal narrowing and extending into the right atrium (Figure 1 & 2), and

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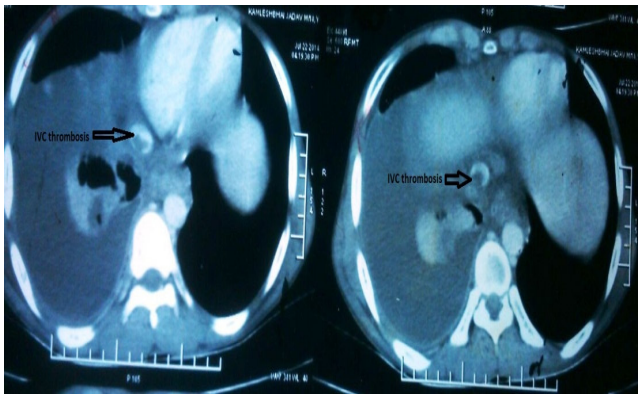

Fig 1: CT images showing right gross pleural effusion with underlying lung showing collapse with mediastinal shift towards left side and hypodense filling defect in inferior vena cava s/o thrombus.

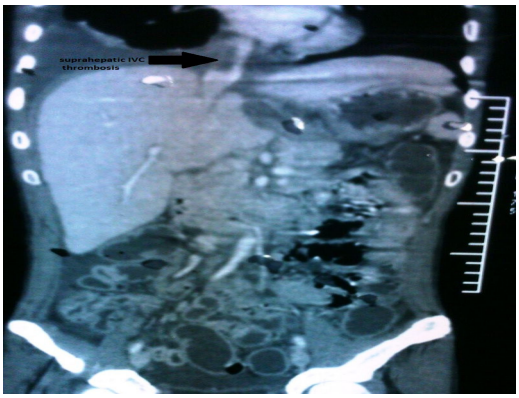

Fig 2: CT Thorax showing right pleural effusion and hypodense filling defect in suprahepatic inferior vena cava s/o thrombus

moderate ascites. Right sided gross pleural effusion with enhancing parietal and visceral pleura and collapse of underlying of right lung. Neck ultrasound showed right Internal jugular vein measures 12 mm in thickness, heterogeneously hypo echoic material noted within lumen of proximal half of right IJV which does not show color flow on Doppler suggestive of thrombosis. Rest of the great vessels appeared normal. No evidence of significant lymphadenopathy noted.

So, diagnosis of acute pancreatitis with moderate ascites, right sided pleural effusion and thrombosis of suprahepatic inferior vena cava and internal jugular vein was made.

Patient was managed conservatively for acute pancreatitis. Due to gross pleural effusion therapeutic thoracocentensis was done .Thrombosis of IVC & IJV was treated with intravenous heparin followed by oral warfarin. Patient was improved symptomatically.

Discussion

Intracytoplasmic premature activation of trypsinogen to trypsin is considered the fundamental pathogenetic mechanism of acute pancreatitis. In addition, active phospholipase A2, elastase and lipase have been proposed to play a major role in the auto digestion of the pancreatic acinar cell that is characteristic of the disease [7, 8]. Alcoholism and gall stone are main etiological factors for pancreatitis [9].

There are lists of complications that occur in pancreatitis and vascular thrombosis is one of them. Vascular complications of pancreatitis are a well-recognised cause of morbidity and mortality being more frequently observed in alcohol-induced rather than gallstone pancreatitis [10].

Activated proteoytic enzymes like trypsin and other enzymes activatrd by trypsin like elastase and phospholipase A, and cytokines cause extrapancreatic injuries including vascular damage [7,8]. Thrombosis of distant veins is postulated to be due to inflammatory vasculitis and hypercoaguable states. Venous thrombosis may also occur due to extrinsic compression by oedematous gland or pseudocyst [3].

In our patient there was thrombosis of suprehepatic inferior vena cava and internal jugular vein without involvement of splanchnic veins. CECT finding showed that pseudo cyst of pancreas from distal body of the pancreas extending cranially in midline along the medial aspect of the caudate lobe abutting the supra hepatic IVC.

So mechanism of thrombosis in our patient may be because of inflammatory vasculitis or abuttment of IVC by pseudocyst.

Acute pancreatitis in our patient was treated conservatively and vascular thrombosis was successfully managed with intravenous heparin and oral warfarin without any complication. Pulmonary thromboembolism as complication of IVC thrombosis in pancreatitis have been reported [11,12]. We are describing a rare complication of pancreatitis. Early diagnosis and treatment with systemic anticoagulation prevent further complication due to vascular thrombosis.

Conclusion

Vascular thrombosis other than splanchnic vein may occur in pancreatitis. Awareness and familiarity with these types of complications help in early diagnosis and timely management of patient and prevent further catastrophic events like pulmonary embolism.

Contribution by co author

This case report is done under guidance of my co author Dr Meghna Patel and Dr K R.Patel. They both have given equal contribution in making this case report. I am personally thankful to them for their valuable guidance and support.

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