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Case Report

Inferior vena cava thrombosis as a complication of Crohn's disease

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ABSTRACT

Twenty-nine years old male, a case of Crohn's disease diagnosed by histopathology 5 years back, when he developed a perforative peritonitis. Resection and anastomosis was done, and he was started on Mesalamine therapy. Patient stopped the drug 8 months back and presented with cough for 1-month duration. HRCT chest showed IVC thrombosis. CECT abdomen showed intrahepatic extension of thrombus with active colitis and absent left testicle in scrotum with no intra-abdominal testicle. Coagulation parameters were normal. Colonoscopy and biopsy was done showing features of active Crohn's disease. Patient was restarted on Mesalamine and anticoagulation. Follow up imaging showed features of resolution of thrombus.

Keywords: Crohn's disease, IVC thrombosis

INTRODUCTION

Thromboembolic complications of Crohn's disease were earlier thought to be uncommon. But recent studies have shown that the incidences of thromboembolism are much more common, especially when the patients have an ongoing active disease. Patients usually develop thrombosis of the deep veins of the leg, pulmonary veins and less commonly in less commonly in the portal system. Here we present a patient with Crohn's disease, a drug defaulter having an active colitis developed thrombosis of the inferior vena cava(IVC) which is a rare presentation.

CASE REPORT

Twenty-nine years old male, a computer technician presented with cough for one-month duration, which is associated with minimal sputum production and there is no associated hemoptysis. There is no history of fever, breathlessness or chest pain, but there was an associated loss of weight and loss of appetite. In 2011 patient developed an episode of acute abdomen, he underwent a laparotomy and was found to have perforative peritonitis. Resection and anastomosis was done, and histopathology was suggestive of Crohn's disease. Patient was started on Mesalamine therapy which he discontinued for the past 8 months. There is no history of tuberculosis or any contact with tuberculosis in the past.

On examination the patient was moderately built and moderately nourished. There was a midline surgical scar below the umbilicus and an absent testicle in left scrotum. Pulse rate (84/min) blood pressure (110/80mmHg), systems examination was essentially normal.

Investigations

Blood counts revealed haemoglobin of 12.4g/dl, white cells of 7.8x109/L, platelets of 260x109/L. Erythrocyte sedimentation rate was 30mm/hr. Peripheral blood film,

liver function tests and renal function tests were normal. Sputum examination for acid fast bacilli was negative.

Chest X-ray showed a non-homogenous opacity in left mid zone in the hilar region. High resolution CT of the chest showed a lobulated, cystic non-calcified lesion of 34x28mm is seen in left hilum adjacent to Left bronchus. IVC showed thrombosis in the diaphragmatic and hepatic segments without cardiac extension. Echocardiography also did not show any intracardiac extension of the thrombus.

Figure 1: CT scan of the chest showing thrombosis of inferior vena cava.

Doppler of the IVC showed a thrombus of length 5.2cm and thickness of 7mm extending from suprarenal part to intrahepatic portion of IVC. Contrast enhanced CT of the abdomen showed features suggestive of active colitis with IVC thrombosis. Absent left testicle in the scrotum and spermatic cord with no evidence of intra-abdominal testicle.

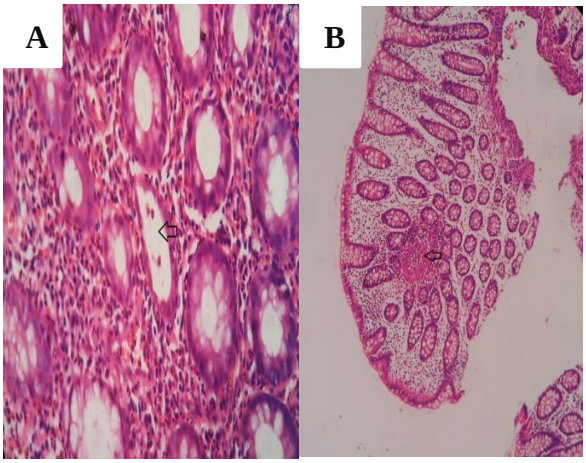

Figure 2: Histopathology images of the patient from the biopsy of the colon. (A) Crypt with inflammatory cells-crypt abscess; (B) Granuloma formation.

Coagulation parameters were normal. The hypercoagulability panel like serum homocysteine, Protein C, Protein S, Factor V leiden, antiphospholipid antibody, antinuclear antibody were negative.

Bronchoscopy showed whitish growth in lingual and left lower zone. Biopsy of which showed tissue lined by respiratory epithelium with dense inflammatory infiltrate predominantly neutrophils. Colonoscopy and biopsy showed edematous lamina propria with inflammatory infiltrate consisting of lymphocytes and plasma cells. Crypt abscesses, granuloma formation and dense inflammatory infiltrate suggested active Crohn's disease in the patient as shown in the figure.

Treatment

The patient is restarted on Mesalamine 400mg thrice daily along with IV heparin which was later changed to oral anti-coagulants. The patient is at present on maintenance oral anticoagulation with monitoring of prothrombin time along with Mesalamine.

Outcome and follow up

The patient responded well to therapy. The thrombosis in IVC showed a resolution from 5.2 to 1.4cm on serial imaging of the IVC. The patient is under monthly follow up at present.

Figure 3: Follow up images where the size of the IVC thrombus had partial resolution.

DISCUSSION

Inflammatory bowel diseases (IBD) are commonly associated with extra intestinal manifestations. Among these venous thromboembolism is particularly very important because its highly associated with significant morbidity and mortality. The incidence is more common when the patient has active disease and there is 22% mortality on a median follow up of 1.8 years.[1] Large scale studies have also shown that the mortality rates as high as 25% in patients with thromboembolic complications.[2] 89% of patients with Crohn's disease

patients had active disease when they developed thromboembolic episode.[3]

Multiple factors are found to be involved in producing a prothrombotic state in IBD. Commonly seen are the elevation of fibrinogen, Factor V and Factor VIII levels with decreased antithrombin III levels especially during active disease. Thrombocytosis with abnormal platelet aggregation were also found in few patients. Factor levels and fibrinogen levels are found to decrease with treatment.[4,5] Management is primarily aimed at attaining remission of the disease, as active disease is more prone for further episodes followed by anticoagulation which helps in preventing embolic phenomenon. In patients with thrombosis producing acute ischemic event, thrombolysis is indicated.[6] In patients with recurrent thrombus formation with fear of embolism or hemodynamic instability, an IVC filter can be placed to prevent further episodes.[7] Gastrointestinal bleeding is a common complication of anticoagulation or thrombolysis as the patients usually have active disease at the time of thrombus formation. As the benefits overweighs the risks these therapies are not absolutely contraindicated.[8]

CONCLUSION

When an IBD patients present with a new symptom complex, thromboembolic phenomenon needs to be considered. Thromboembolic complications in Crohn's disease carries significant morbidity and mortality. High index of suspicion and appropriate diagnosis and intervention early has a significant effect on the outcome of the patient. Thromboembolic complications are more commonly seen when there is a flare or when the patient is in active disease, but rarely can also be seen in patients with remission.

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