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A rare case of peritonitis due to ruptured splenic abscess in known case of HIV and Koch's abdomen

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Abstract

When evaluating patients with severe acute abdominal pain, physicians and surgeons must consider common etiologies for acute abdomen such as appendicitis, diverticulitis, perforated viscus and vascular emergencies like ruptured aneurysm or bowel ischemia. In some patients, however, there is a more unusual cause of an abdominal emergency. In this article, we report patient where an abdominal crisis was caused by rupture of a splenic abscess. We present a case report of splenic abscess causing peritonitis in a case of Koch's Abdomen and PLHA. The patient presented with pain abdomen and breathlessness which later evolved to acute abdomen during the course of hospital stay. CECT imaging of abdomen suggestive of pneumoperitoneum and exploratory laparotomy was performed under a strong clinical suspicion of hollow viscus perforation.

Keywords: Peritonitis, Splenic Abscess, Ruptured Splenic Abscess, Splenectomy

Introduction

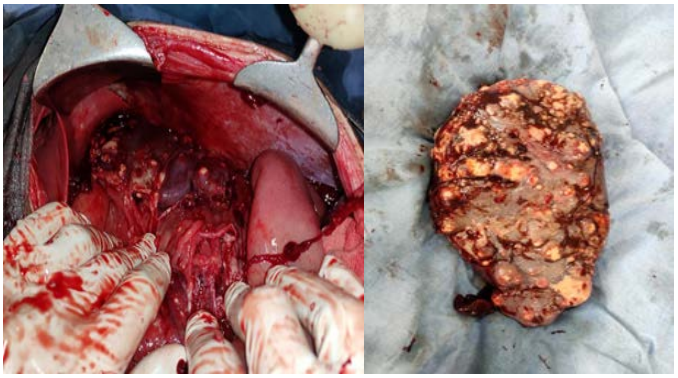
Abscess of the spleen is a rare discovery. It is more common in the presence of infection at different primary sites. Immunosuppression and trauma are the well-known risk factors. Recently, intravenous drug abusers and alcoholics have shown an increased incidence compared to other risk groups. However, encountering this entity in a general population is uncommon. Clinical examination and laboratory findings are not constant; thus, imaging is a necessary tool for establishing the diagnosis. If untreated, mortality reaches almost 100%. Treatment

includes conservative measures and surgical interventions. Splenic abscess should be included in the differential diagnosis of pneumoperitoneum, particularly in the clinical setting of an immunocompromised state. Various infective pathogens ranging from bacteria, protozoa, parasites to fungus can cause splenic abscesses. Among the organisms isolated mycobacterium tuberculosis, streptococcus and staphylococcal infections are the commonest. Although splenectomy is considered the gold standard treatment for splenic abscess, conservative approach can be used for less severe cases.

Case study

A 21 years old male known case of PLHA but not on regular treatment came with abdominal pain, breathlessness for past 15 days.

On examination the abdomen was soft, non-tender, no guarding and no rigidity and the patient is tachycardic and not maintaining BP and on ionotropic support. Routine investigations has been taken which shows normal count, RFT, LFT with low hemoglobin and with high INR of 2.31 with normal aPTT. CD4 count has been taken which was found to be very low (146cells/microL). Ultrasonography suggestive of spleen with mild enlarged with multiple target like, hypoechoeic lesion noted which is probability of infiltration likely and with gross ascites with full of moving echoes within. Further, Contrast CT Abdomen taken which suggests Pneumoperitoneum with gross free fluid in the peritoneal cavity with enhancing peritoneum and septae within. Mild splenomegaly noted, 134mm in long axis with multiple cystic lesion noted with largest one measuring approx 15x14 mm which suggests abscess likely. Mutiple enlarged necrotic nodes are seen at porta, in preparaaortic region and along small bowel mesentry, largest one aprox 37x27 mm and mild heatomegaly. CT also suggests bilateral mild to moderate pleural effusion with multiple peribronchovascular nodules in the lung field.



Intra operative findings showing Ruptured splenic abscess over the inferior pole with irregular granular surface with uncontrollable active bleeding.

After normalising INR, Patient was taken for emergency exploratory laparotomy and around 2500 ml of peritoneal fluid drained and multiple pus flakes has been seen over pelvic, RIF, perihepatic and peri splenic region and drained. Two large mesentric lymph node found one at 10cm from DJ junction and another at 10 cm proximal to IC junction. The rest of the abdomen for a source of perforation was negative, attention was turned to the left upper quadrant where free rupture of a splenic abscess was found over the inferior pole with irregular granular surface of spleen with active bleeding from the spleen which is uncontrollable. Splenectomy done. Three abdominal drains kept and abdomen closed in layers. Postop monitoring of the patient done, antibiotic therapy continued, vaccination given. Histopathology report of biopsy specimens suggestive of Koch's abdomen and AKT was started.

Discussion

Splenic abscess is a rare entity with approximately only 600 cases being reported in the literature review so far. Its incidence is about 0.2 - 0.7% in autopsy series[1]. A splenic abscess causing pneumoperitoneum is even rarer in that only six such cases have been reported to date[2].

[3]Three aetiological causes of splenic abscesses have been proposed trauma with secondary infection; per continuitatem; and haematogenous spread. Development by continuitatem has been described in perforated gastric ulcer, perinephric abscess, septic abortion, appendicitis with perforation and in the case of concomitant colon carcinoma. Colon carcinoma metastases to the spleen is also an important precursor in a small number of cases where the metastases get secondarily infected. Other haematological spread can be caused by retropharyngeal abscess, otitis media, tonsillectomy, infective endocarditis, urinary tract infections and phlebitis of the calf. All studies on this subject stress the strong correlation between splenic abscess and predisposing factors.

Direct trauma, infarction or ischaemia of the spleen predispose to secondary infection. The immunosuppressive state especially seems to play a great role in the development and rising incidence of splenic abscesses. The predisposing conditions include intravenous drug abuse, HIV, diabetes mellitus, tuberculosis and neoplasia. It is observed that there is an increase in the incidence of splenic abscesses in recent years. This may be attributed to the increasing number of individuals with immunocompromised states like diabetes, cancer chemotherapy, HIV, steroid use, etc, and also to the better detection rates due to improved imaging technology.

Rupture of intraabdominal abscess and peritonitis as its complication is a usual surgical emergency encountered in practice. But a ruptured splenic abscess causing peritonitis is not common, and is a life-threatening complication. [4]Chun et al studied 173 patients with splenic abscess and found 10% to have peritonitis due to rupture. Whereas [5]Phillips et al found 15% had peritoneal signs and 10% required emergency exploration for ruptured spleen abscess in a study done of 39 patients with splenic abscess. Splenectomy by open laprotomy is the treatment of choice in ruptured splenic abscess with or without peritonitis.

While overall mortality in patients with splenic abscess is about 12%, mortality in patients with rupture and generalized peritonitis may be 20-55%.

The changing spectrum of bacterial isolates from splenic abscess suggests the use of broad-spectrum antibiotics until culture results are available. Many of these abscesses are polymicrobial and some are caused by gas-producing organisms. When a splenic abscess caused by gas-producing organism ruptures, a pneumoperitoneum can be seen[6,7]. Fungal and Mycobacterial infections are becoming more common.

Conclusion

Surgeons should be aware that ruptured splenic abscess is a rare cause of an acute abdomen with generalized peritonitis. Splenic abscess is best diagnosed with CT scanning. Rupture is suggested by the development of generalized abdominal tenderness. The presence of intra-peritoneal fluid or gas in a patient with splenic abscess seen on CT scan also suggests rupture. The treatment of choice for patients with ruptured splenic abscess is splenectomy and antibiotic therapy.

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