

A Rare Indication of Splenectomy - A Case Report

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SUMMARY

Splenic abscess is a rare clinical problem with variable clinical presentation. Mortality rate is very high in cases involving multiple abscesses, immunocompromized states and in patients with gram negative infection. Treatment with splenectomy followed by antibiotics is the main stay for management of this condition. We report here a case of 55 years old lady, presented to us in emergency department with shortness of breath, on and off fever and pain in left upper abdomen. We advised complete blood count which showed increased leukocyte count. Chest x-ray showed large left sided hydrothorax. Splenic abscesses are increasing in frequency. They still pose a diagnostic challenge due to variable presentation. Advance radiologic investigations are best aids for diagnosis. Splenectomy is still the favorable treatment option.

Keywords: Spleen, splenic abscess, splenectomy, prognosis.

INTRODUCTION

Splenic abscesses are rare clinical entity. Less than 1000 cases have been reported internationally^{1,2,3}. Recently in this decade the number of cases has been increased due to immunocompromized states^{4,5}, Splenic abscess is still a diagnostic challenge due to variety of presentations⁶. Clinical presentation varies from fever, left sided pleural effusion, pain in left upper abdomen and shortness of breath. Ultrasound and CT scan are best diagnostic modalities with specificity upto 90%^{7,8}. Role of ultrasonography and aspiration is increased in the management of splenic abscesses in critically ill patients where the gold standard splenectomy is not possible^{9,10}. Multiple abscesses and gram negative infection with immunocompromized states are poor prognostic factors. Splenectomy is still the most acceptable treatment option^{11,12,13,14}.

CASE PRESENTATION

A 55 years old female, known case of diabetes mellitus and hypertension presented to emergency department with complain of shortness of breath, on and off fever and pain in left upper abdomen. She has history of multiple previous admissions to different hospitals for fever and pain. During her last admission she underwent ultrasonography of abdomen and the diagnosis of splenic abscess was made. She underwent aspiration of her abscess twice with removal of 500 ml of pus each time. Clinical examination revealed, lethargic and pale lady who was short of breath. Her pulse was 110 beats/ min.

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she had absent breath sounds in the left lower and middle zone. Her left hypochondrium was tender and bulging.

Laboratory investigations showed leukocytosis, while other biochemical tests were within normal ranges.

Ultrasound abdomen showed enlarged spleen measuring 19cm. A mixed echogenicity area predominantly cystic is noted within the spleen measuring 12.5x10.1 cm in size with internal echoes.

Radiological imaging like chest x-ray and CT scan abdomen was ordered. Chest x-ray showed large pleural effusion (Fig. 1) and CT scan abdomen showed huge cystic lesion in the spleen which is causing splenomegaly and significant compression of stomach. The cystic lesion shows air lucencies. (Fig. 2, 3) Liver, kidneys, pancreas and para-aortic region are normal.

Chest intubation was performed to drain pleural effusion. The patient underwent laparotomy for splenectomy under general anaesthesia. Spleen was found grossly enlarged with abscess cavity at the superior pole. Surgery was completed with smooth operative course and the patient was shifted to intensive care unit for monitoring. In the post-operative period, patient stayed stable with fast recovery from all her symptoms. Operative and post-operative photographs were taken showing the enlarged spleen in situ and the abscess cavity when laid open (Fig. 4,5,6)

The histopathological study of the spleen revealed that the cause of splenic abscess was nonspecific inflammatory process and the bacteriological study showed that pathogen detected was *Klebsiella* species. Within two weeks of splenectomy patient was immunized to prevent OPSI infection. She was discharged on oral antibiotics.



Figure 1: Chest x-ray of patient showing large pleural effusion on the left side.

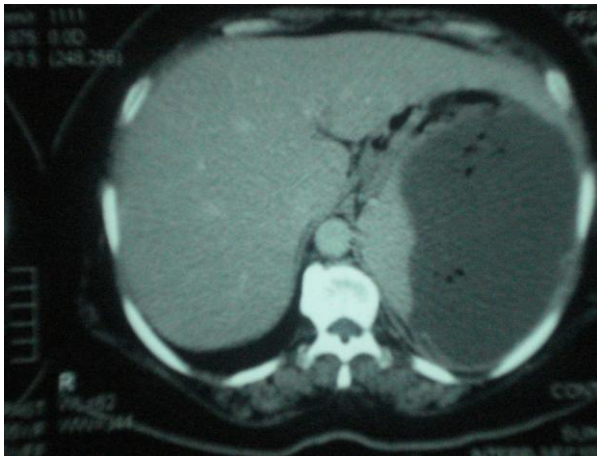


Figure 2: CT scan showing enlarged spleen with abscess cavity with internal air lucencies.



Figure 3: CT scan showing abscess cavity in spleen.

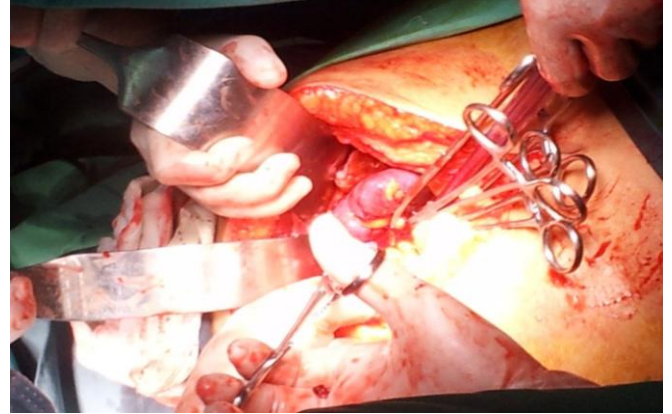


Figure 4: Per-operative picture of spleen

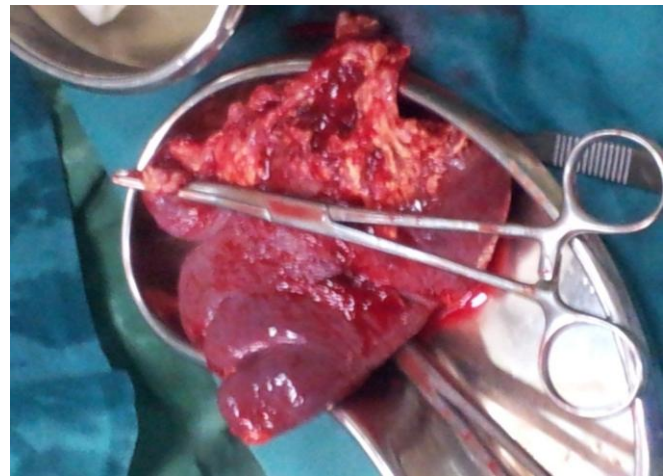


Figure 5: Specimen of excised spleen showing slough tissue.

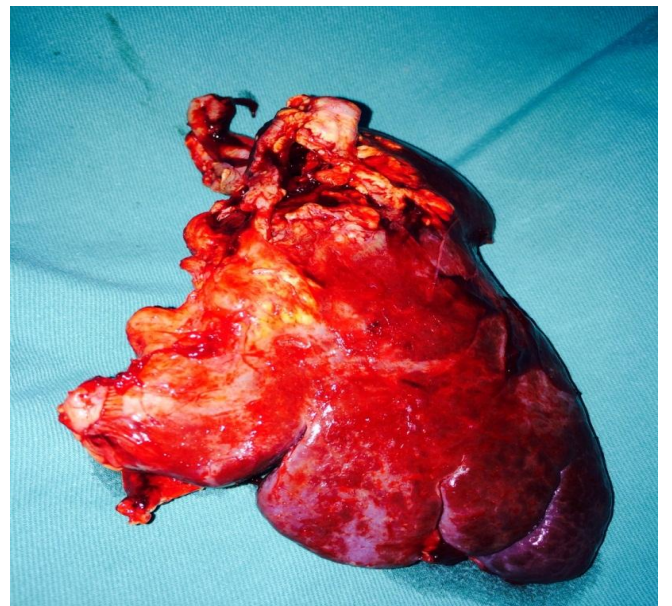


Figure 6: Specimen of spleen showing abscess cavity at superior pole.

DISCUSSION

Splenic abscess is a rare condition and usually occur in immunocompromized patients, patients with AIDS, intravenous drug abusers and patients with organ transplants.⁴In an autopsy series the reported frequency is 0.14-0.7%.¹ Another study conducted in Denmark showed the incidence of splenic abscesses 0.056% per 1000 somatic hospital discharges per year.¹⁵ In this era of antibiotics the reported mortality rate is still high i.e. upto 47% and can go upto 100% in untreated cases¹⁶.

Adequate and timely management can decrease mortality upto 17.9%.¹³ Computerized tomography and ultrasonography have sensitivity of 92.2% and 87.2%, respectively.⁴ CT scan has higher accuracy in diagnosing splenic abscess as ultrasound cannot discriminate between infarct and abscess in some cases^{13,16}.

In our case the results of Sonography and CT scan were almost similar. We experienced that with these imaging modalities, clinical enquiry and examination, the diagnosis becomes an easy task.

Usually patients present with fever, left sided abdominal pain, palpable splenomegaly, nausea and vomiting^{17,18}. Some patients as in our case presents with pleural effusion¹.

Variety of pathogens have been isolated from the splenic abscesses. The most common reported pathogen is *Klebsiellapneumonia*, same as in our case^{1,13}. Study from Thailand shows the growth of *Burkholderia Pseudomallei* in majority of the cases¹⁹. In the Singapore⁴, American²⁰ and Greek⁵ series the most common pathogen is *Staphylococcus* species. Many reports show the presence of *Tuberculosis*²¹, *Salmonella* (typhoid)²² and *Brucella*²³ species. Few reports also show the isolation of *Vibrio cholerae*²⁴, *Peptostreptococcus*²⁵, *Chlamydia pneumonia*²⁶ and *Streptococcus pyogenes*²⁷.

The route of spread of infection is usually hematogenous, sometimes contiguous infection and rarely direct inoculation. Several predisposing conditions are associated like, immunosuppression, pre-existing splenomegaly and splenic trauma. The most common predisposing factor found was diabetes mellitus. Lee et al, have found an association between diabetes mellitus and splenic abscess caused by *Klebsiella pneumonia*²⁸.

Most of the studies recommend splenectomy as the treatment of choice. Chun et al²⁹ recommended "prompt surgical intervention" i.e., splenectomy once the diagnosis was made. Nelkenet al³⁰ described splenectomy as the "mainstay" of treatment except for those of fungal aetiology (for which systemic anti-fungals alone may suffice). Ooiet al⁴ suggested that percutaneous drainage may be effective for selected

cases, but still described splenectomy as "definitive". Abdul Rehman et al¹¹ suggest splenectomy as a safe procedure for patients with abscess size more than 10 cm and patients not responding to non-operative treatment.

Recently non-operative management like antibiotic therapy alone or percutaneous drainage with antibiotic therapy are becoming more popular³¹⁻³². Splenectomy is being reserved for complicated cases or cases with multiple splenic abscesses.⁹In our case the patient had smooth postoperative recovery and gained benefit from splenectomy.

Nowadays opportunistic post splenectomy infection is a rare but lethal event³³. Guidelines for planned splenectomy indicated prophylactic vaccination 15 days before surgery as well as antibiotic prophylaxis³⁴. These guidelines include immunizations, antibioprohylaxis, and education. Immunizations against *Streptococcus pneumoniae*, *Neisseria meningitidis*, *Haemophilus influenzae*, and influenza should be administered. Antibioprohylaxis during 2 to 5 years following splenectomy in children, and 2 years in adults is recommended. In our case we immunized our patient within 72 hours of surgery.

CONCLUSION

In conclusion, splenic abscess is potentially life threatening condition if gets complicated. High index of suspicion and liberal use of imaging modalities is required for timely diagnosis of splenic abscess.

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