

# Splenic Abscess: Successful Treatment by Open Drainage

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## Abstract

Splenic abscess is an uncommon but potentially life-threatening disease. Earlier, splenectomy along with antibiotics was the established treatment for splenic abscess. However, recently there is a shifting trend towards drainage of splenic abscess either percutaneously under ultrasound guidance or by open drainage. By this approach, splenectomy and its detrimental effects of increased chances of post-operative infections are prevented. We report a case of splenic abscess, which was successfully managed by open drainage with preservation of the spleen, after the attempts of ultrasound-guided percutaneous aspiration had failed.

## INTRODUCTION

Splenic abscess is a rare condition with an incidence of 0.2 to 0.7% in autopsy studies.<sup>1</sup> Antibiotics and splenectomy have traditionally been the recommended treatment for splenic abscess.<sup>2,3</sup> However, the need for splenectomy is now being questioned as the spleen has got important immunological functions such as prevention of infection.<sup>4,5</sup> Recent evidence has shown that percutaneous drainage of splenic abscess is a safe and efficacious treatment modality for splenic abscess.<sup>6</sup> We report a case of splenic abscess treated successfully by open drainage when percutaneous aspiration had failed.

## CASE REPORT

A 12-year-old male child presented with complaints of high-grade fever for one month, abdominal pain in the left hypochondrium and epigastrium for 15 days. On examination, the patient had a toxic look with pyrexia of 104° F with pallor and tachypnoea. Chest examination revealed decreased air entry in the left lower zone. Abdominal examination revealed tenderness in the epigastrium and left hypochondrium. Patient had hemoglobin of 9.0g%, total leucocyte count of 18000, platelet count of 2.5 lakh, and Widal was positive. Chest x-ray revealed left-sided pleural effusion. Ultrasound of the abdomen revealed a 4 x 5cm cyst in the upper pole of the spleen with a possibility of splenic abscess or infected hydatid cyst.

CECT of the abdomen revealed splenomegaly with a well-defined irregular hypodense non-enhancing area of 4.6 x

5.6cm at the upper pole. Serology for Echinococcus granulosus was negative. Percutaneous USG-guided aspiration was attempted but failed. Pleural tap revealed predominantly polymorphonuclear lymphocytosis with raised protein and decreased glucose levels. Blood culture showed growth of E. coli sensitive to levofloxacin. The patient was administered intravenous antibiotics, but his condition deteriorated and a decision was taken for laparotomy on the fourth day. Peroperatively, the spleen was enlarged with a solitary large abscess of approximately 6 x 5cm in the upper pole occupying about one quarter of the spleen (Fig 1). The capsule over the abscess cavity was friable with multiloculated thick wall. The sloughed capsule was removed along with necrotic material in abscess cavity (Fig-2). Considering the age of patient and immunological hazards of splenectomy, open drainage of the splenic abscess was done. Pus culture was sterile. Postoperatively, intravenous antibiotics (levofloxacin) were continued, the patient showed marked clinical improvement and was discharged after a week. Follow-up USG after 3 months revealed fully resolved abscess with small scarring at the upper pole.

### Figure 1

Figure 1: Enlarged spleen showing a large abscess cavity at the upper pole



### Figure 2

Figure 2: Open cavity of the abscess



## DISCUSSION

Splenic abscess is an uncommon surgical problem in the pediatric age group with 100% mortality if untreated. Splenic abscess may develop after generalized infection, hematological disorder and trauma. The commonest cause is hematogenous seeding of the spleen from an infective focus elsewhere in the body. Infecting microorganisms include gram-positive bacteria, mycobacteria, fungi and anaerobes.<sup>7</sup> USG detects large abscesses easily, but may miss the small abscesses. CT scan remains the gold standard for definitive diagnosis.<sup>8</sup>

The standard treatment of splenic abscess has been splenectomy with antibiotics as it removes the complete focus of infection.<sup>2,3</sup> Recently, ultrasound-guided percutaneous aspiration of abscess has emerged as a safer alternative to splenectomy. This modality should be avoided in multiple or multiloculated abscesses and abscess due to contiguous infection.<sup>9,6</sup> In these cases and in cases where percutaneous drainage fails, open drainage is an option, thereby preventing splenectomy and its dangerous effect of increased postoperative infections.<sup>7</sup>

In the present case, first the attempt of conservative treatment by intravenous antibiotics and percutaneous aspiration was made. On failure of percutaneous aspiration and no clinical response to the antibiotics, open drainage was done with preservation of the spleen.

## CONCLUSION

In splenic abscess every attempt is to be made for splenic salvage and drainage of the abscess either percutaneously or operatively should be the preferred approach.

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