

## Splenic abscess in Jos

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### Abstract

**Background:** Splenic abscess is an uncommon surgical condition that constitute 0.14-0.7% of necropsy specimen. Delayed or missed diagnosis may result in a fatal outcome.

**Method:** A retrospective study of patients with splenic abscess treated at Jos University Teaching Hospital over a ten-year period.

**Results:** Eight patients were managed. There were 2 males and 6 females aged between 18 and 65 years (median age 31 years). Duration of symptoms ranged between 2 to 16 days with a median of 7 days. The main clinical features were fever, left hypochondriac pain and tender splenomegaly occurring in 87.5%, 100% and 87.5% respectively. Abscess cavity was solitary in seven cases. All except one patient had antibiotics and splenectomy. The commonest organism cultured was staphylococcus aureus, 5 of 7 cultures (71.4%). Postoperative complication included wound infection two, acute pancreatitis one and overwhelming post splenectomy infection (OPSI) in one. There was one mortality (12.5%).

**Conclusion:** Prompt diagnosis and treatment based on a high index of suspicion will reduce the high morbidity associated with this rare disease. It is hoped that as appropriate skill and imaging techniques become more available in developing countries, more splenic abscess patients will be managed by percutaneous drainage especially that solitary abscess cavity seems dominant in our environment.

**Key words:** Spleen, abscess, splenectomy

### Introduction

Splenic abscess is an uncommon surgical condition that constitutes 0.14 - 0.7% of necropsy specimens<sup>1</sup>. Though rare, there are changing patterns concerned with the diagnosis and treatment of the disease.

This is a report of splenic abscess managed between Jan 1989 and

December 1998 at the Jos University Teaching Hospital (JUTH).

### Patients and method

A retrospective audit of all patients treated for splenic abscess in the department of surgery of Jos University

aureus infection culture in 5 of 7 cases, streptococcus pneumoneae in 1 case, and Klebsiella organisms in 1 case. Splenic culture data from recent reports<sup>1,2</sup> list *Streptococcus viridans*, *Escherichia coli*, *Salmonella* and *Bacteroides fragilis* in that order of frequency, as the offending cause of splenic abscess. Blood culture are only positive in 40-60% of patients in reported series. One of 8 patients in this report had a positive blood culture that resulted in the same organism (klebsiella) as those isolated from the splenic abscess. Fungal and tuberculous splenic abscesses are more likely to be found in immunocompromised patients<sup>5,6,7</sup> and no single case was recorded in our series.

The gross pathology of splenic abscess closely mirrors factors involved in its causation. On the one hand are solitary bacterial splenic abscesses that mainly occur following trauma and primary splenic disease. Solitary abscesses could be limited to the upper or lower poles of the spleen or even near the hilum and their location thus constitutes an important index of which management modality should be employed in treatment.<sup>8</sup> On the other hand, multiple bacterial splenic abscesses normally follow underlying conditions like septicaemia, blood disorders and immunosuppression.<sup>1,2</sup> Fungal splenic abscess are also more likely to be multiple and associated with disseminated fungal infections of other solid organs usually due to *Candida albicans*.<sup>5,9</sup> Recent reports indicate that the sole use of antifungal agents in these cases and antituberculous drugs in tuberculous splenic abscess are usually curative.<sup>5-7</sup>

Clinical indices of diagnostics value in bacterial splenic abscess include fever which occurs in 95-100%.<sup>1,2</sup> Physical examination is usually revealing of abdominal tenderness and splenomegaly 25-40% of patients.<sup>2,5</sup> In this report all our patients had abdominal pain and tenderness with demonstrable splenomegaly in 7 patient (87.5%). Most

patients also present with chest dullness to percussion and decreased breath sound at the left lung base.<sup>5,9</sup> Although imaging diagnostic techniques like ultrasonography, splenic radioisotope scans and arteriography had been employed in the past, Computerized Tomography (CT) Scan is currently the best diagnostic tool.<sup>8,9</sup> Improvements in CT-Scan have resulted in a shorter time interval between diagnosis and treatment, which was previously in the range of 3 days to 4 weeks.<sup>8,9</sup>

Prolonged antibiotic administration is required in the initial management of bacterial splenic abscess.<sup>2,9</sup> Splenectomy remains the primary treatment for this condition with meticulous attention to details in operative technique in massive splenomegaly (splenic weight > 1.5 kg).<sup>10</sup> Although some other surgeons propose otherwise, in massive splenomegaly we employed the T-incision (see photograph) so as to facilitate the division of adhesions under direct vision following ligation of the splenic artery.<sup>10,11</sup> Plication of the floppy diaphragm was also achieved following splenectomy. Drainage of the splenic bed was undertaken only when there was spontaneous rupture of the abscess or spillage of abscess contents intra-operatively. One of 8 patients died of massive pulmonary embolism probably due to the effect of splenectomy in inducing thrombocytosis.<sup>12</sup> The gloomy outcome of 40% mortality rates following splenectomy for bacterial splenic abscess has been improved with recent mortality rates following splenectomy for bacterial splenic abscess of 7% as a result of earlier diagnosis employing CT-Scan.<sup>2</sup> Recent reports suggest, however, that a selected group of patients such as those at high risk because of advanced age and previous surgery can be successfully managed employing percutaneous drainage.<sup>8</sup> Percutaneous CT-guided drainage is especially indicated in unilocular abscess, which was observed in 87.5% of our cases and in children to

avoid the dreaded post splenectomy syndrome.<sup>11-14</sup> Relative contraindications to its use include associated surgical abdominal conditions, suspected rupture of splenic abscess, large septated or multilocular abscesses, abscesses close to the splenic hilum, bleeding diathesis and splenic abscesses that are inaccessible without crossing the pleural cavity. In the final appraisal of management options, it is hoped that as appropriate skill and imaging techniques become available in developing countries, more splenic abscess patients would be managed by percutaneous drainage especially that uniloculated abscess cavity seems dominant in our environment.

Post operative prophylaxis against microorganism like pneumococcus and malaria are particularly indicated in patients who had splenectomy for non trauma causes and should be administered to these patients since infective complications are commoner in this group.<sup>13,14</sup>

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