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SPLENIC ABSCESS: THE IMPORTANCE OF EARLY DIAGNOSIS.

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SUMMARY:

Splenectomy is an uncommon condition affecting between 0.14 and 0.7 per cent of necropsy specimens. When present it is frequently diagnosed during postmortem examination. The advent of modern imaging methods has made possible early diagnosis which should lead to better results. Our recent experience with three cases is presented. The treatment of choice is splenectomy.

KEY WORDS: Splenic abscess, modern imaging, early diagnosis, splenectomy.

INTRODUCTION

Surgical experience with clinically overt splenic abscess remains limited, as evidenced by recent reviews of ten and eleven cases representing large series. Our experience with three cases of splenic abscess within a fifteen month period, all of whom had successful surgical treatment prompted this report.

MATERIALS: All medical records and pathology reports of the three patients were reviewed.

Case 1: Mrs. O.E, a 40 year old Nigerian woman was admitted on 22/5/94 with a working diagnosis of typhoid fever. She had had a one month history of fever, headache and loss of appetite and a one week history of upper abdominal pain and tenderness. Her clinical picture worsened despite treatment with different courses of antimalarials and antibiotics. Serial Widal test was positive with a rising titre. The full blood count showed pancytopenia with Hb 9.5gm%, WBC 2300/mm³ and ESR 125mm/1st hr (westergren). Liver function tests and serum electrolytes and urea were within normal limits. Abdominal ultrasound of 10/5/94 showed features of acute cholecystitis and a splenic abscess measuring 73mm in diameter. Repeat ultrasound of 7/6/94 showed an enlarged abscess with diameter of 92mm.

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Case 2: Mrs. E.C, a 50 year old female Nigerian was seen at a General Hospital Nsukka in July 1995, with a six week history of recurrent fever and chills, weakness and dyspnoea. Her Hb was 4.5gm% and serial Widal test was positive with a rising titre. She was treated for typhoid fever and had blood transfusions. She recovered after 10 days and was discharged. Four days later she had recurrence of the same symptoms and in addition had severe abdominal pain and distension. She had an abdominal ultrasound which revealed a splenic abscess. She was thereafter referred to us.

On admission on 2/8/95 her Hb was 7.8gm%, WBC 9100/mm³ and ESR 115mm/1st hr (westergren). She was treated with antibiotics, blood transfusion and splenectomy. Thereafter she had marked improvement in symptoms but required more blood transfusion. She was discharged after 3 weeks of hospital stay.

Case 3: Mr. O.S, a 36 year old male Nigerian was admitted on 16/7/94 with complaints of fever, pain left hypochondrium and loss in left hypochondrium of 1½ weeks duration. Three months earlier he had drainage of an antral ulcer with ligation for abdominal ultrasound and it showed a splenic abscess which extended into the lesser sac. Laparotomy was done on 17/7/94 for splenectomy and drainage. He maintained steady progress thereafter and was discharged 4 weeks later.

Patient had laparotomy, Cholecystectomy and Splenectomy on 10/6/94. Postoperatively, her clinical condition stabilized and she was discharged on 23/6/94. Histologic findings in Gall bladder and spleen specimens were consistent with typhoid involvement.

CASE 2: Mrs. E.C, a 50 year old female Nigerian was seen at a General Hospital Nsukka in July 1995, with a six week history of recurrent fever and chills, weakness and dyspnoea. Her Hb was 4.5gm% and serial Widal test was positive with a rising titre. She was treated for typhoid fever and had blood transfusions. She recovered after 10 days and was discharged. Four days later she had recurrence of the same symptoms and in addition had severe abdominal pain and distension. She had an abdominal ultrasound which revealed a splenic abscess. She was thereafter referred to us.

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DISCUSSION

Splenic abscess is uncommon, as evidenced by its absence in a recent review of 540 intra-abdominal abscesses. Also the diagnosis is often difficult and in several large series only 3 of 66 cases had antemortem diagnosis. More recent reports have included cases correctly diagnosed antemortem but with mortality as high as 60%, often due to delays in confirming diagnosis and instituting proper treatment.

The general presenting features of fever, leukocytosis and left sided abdominal pain in a setting of generalised sepsis, have changed little even with the advent of antibiotics. However since 1970 diagnosis has changed from deduction by exclusion to confirmation using modern imaging techniques like Scintigram, Ultrasonography and Computerised axial tomography. In our local setting ultrasonography which became available since the early 1980's facilitated diagnosis in all three of our patients with a sensitivity of 80-90% and computerised tomography (sensitivity 95-100%) has improved diagnostic accuracy in splenic and gallbladder diseases leading to early treatment. These techniques are also useful as guides for percutaneous drainage.

Splenic abscesses can be classified in three ways. The first classification is pathologic and identifies splenic abscesses as occurring either as solitary cavities or as multiple areas of abscess formation. This distinction is difficult clinically. The second classification, which is clinical, identifies splenic abscesses as either primary or secondary phenomena. Primary splenic abscesses present clinically as isolated entities not associated with concurrent distant sources of sepsis. In contrast, secondary splenic abscesses occur in conjunction with other processes causing recurrent bacteraemia. Generally speaking primary splenic abscesses occur as solitary abscess cavities, whereas secondary splenic abscesses tend to present with multiple cavities.

The third and most useful classification is based on pathogenesis. Under this classification, splenic suppuration arises from primary haematogenous seeding (usually with an unusual organism or in the debilitated patient), from haematogenous seeding in the presence of an abnormality in splenic architecture or function, or from contiguous spread from a local source or sepsis. Haematogenous bacterial seeding appears to be the most common cause of splenic abscess. Our patients fall into this category. The most commonly recovered organisms from splenic abscess are staphylococci, streptococci and salmonella. However other organisms including fungi have caused splenic abscess in the immunocompromised. Certain infections are complicated by splenic abscess with unusual frequency. A threefold increased incidence of splenic abscess has been found among patients dying with typhoid fever and malaria.

Abnormalities in splenic architecture or function comprise the second category of factors in the pathogenesis of splenic suppuration. Patients heterozygous for haemoglobin S (Sickle Cell trait) have a higher incidence of splenic abscess, probably because of the combination of splenic micro-infarcts and splenic dysfunction both of which accompany this disease. Cockshott W.P. et al. and Davey W.W., reviewed 11 patients with splenic abscess in Nigeria and found over 75% incidence of the sickle cell gene. With typhoid fever and malaria still endemic in this environment and the incidence of haemoglobinopathy still high, one would expect more cases of splenic abscess than is being reported. This degree of under reporting may be due to diagnostic difficulties.

The last and least common category in the pathogenesis of splenic abscess is the local spread of infection. In this group splenic abscess arises from direct, contiguous invasion of the splenic parenchyma by overwhelming local sepsis, usually of pancreatic or gastric origin.

The treatment of splenic abscess is surgical. There is little, if any, place for medical management of clinically overt splenic abscess. Splenotomy, or local drainage was the accepted technique in the past, but current surgical opinion favours splenectomy with sustained antibiotic therapy. Most authors recommend that percutaneous drainage should be reserved only for patients with disease that contra-indicates surgery, or in young patients to avoid splenectomy. The mortality rate in the recent past was as high as 40 per cent. Improvements in diagnostic imaging and early
splenectomy have led to rates lower than 7%.

We advocate greater use of Ultrasonography in this environment to improve diagnosis and the ultimate treatment outcome.

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REFERENCES


