Case report

Amoebic spleen abscess

A splenic abscess is an unusual finding worldwide, although there is a higher incidence in equatorial Africa where splenomegaly is more common than in temperate countries. We report a rare case of splenic abscess as a result of amoebiasis, and review the literature on the pathogenesis, differential diagnosis and treatment of this unusual condition.

Case report

A 32-year-old woman presented to St Francis' Hospital in the Eastern Province of Zambia with a 6-week history of general malaise, weight loss, fever and sweating. General examination revealed a high fever, reduced air entry and dullness at the left lung base and tender splenomegaly. She had no cardiac murmurs.

Laboratory investigations in the hospital are limited. She was found to be anaemic (Hb 7.9) and had a neutrophil leucocytosis (WCC 21). CXR showed a small left pleural effusion, aspiration of which gave a straw-coloured fluid with a high protein content (42 g/l). Ultrasound scan revealed a normal liver, but an 8 cm diameter abscess within an enlarged spleen.

Background

Although the spleen is frequently enlarged in association with systemic infection, splenic abscesses are rare in any part of the world. They result from direct or haematogenous spread of pathogens, or when a haematoma becomes infected.

Splenic abscesses are therefore more common in tropical than in temperate countries where the incidence of splenomegaly is higher and so the risk of splenic trauma and infected haematoma greater. In Zambia, the commonest cause of splenomegaly is hyper-reactive malarial splenomegaly. In this condition reticuloendothelial hyperplasia occurs as an immunological response to repeated exposure to the malarial parasite. Splenomegaly in Zambia also commonly occurs as a result of the peri-portal fibrosis, and so portal hypertension, arising from *Schistosoma mansoni* infection. Hepatitis B infection is endemic in Zambia, with an HBsAg positivity rate in the region of 3.3 – 13.6% of the population.[1] Hepatitis C infection is also likely to be high although no data exist. Infection rates in neighbouring Malawi are around 12.7%.[2] Viral hepatitis may cause cirrhosis and splenomegaly secondary to portal hypertension. HIV infection, particularly in the later stages of the disease, is an increasingly common cause of mild to moderate splenomegaly in sub-Saharan Africa and visceral leishmaniasis leads to massive spleen enlargement in this region.

Conditions associated with splenic infarction can also give rise to a splenic abscess. In patients with sickle-cell disease splenic infarction occurs early in life and repeated episodes result in auto-splenectomy by the end of the first decade. Other haemoglobinopathies, such as thalassaemia, and myeloproliferative disorders, which result in splenomegaly, predispose to splenic infarction.

A variety of organisms, such as *Escherichia coli*, *Salmonelleae* and *Bacteroides*, have been isolated from splenic abscesses. *Staphylococcus aureus* septicaemia can result in splenic seedlings and *Streptococcus viridans* species have been isolated when the abscess is a result of infective emboli from bacterial endocarditis.

Isolated tuberculous abscesses of the spleen are rare but have been reported.[3] More commonly there is evidence of tuberculous disease in another organ, especially lung or lymph node.

Splenic abscesses should not be treated empirically with antibiotics without percutaneous drainage. Ng *et al*.[4] advocate simple aspiration of single abscesses but splenectomy for multiple abscesses, with antibiotic therapy tailored by culture of abscess content. However, a series reported by Green[5] had a high failure rate for simple percutaneous drainage and antibiotic therapy, with 5 out of 6 cases requiring subsequent splenectomy.

Outcome

In the case presented here aspiration under ultrasound guidance revealed a pink-brown material that was sterile to culture. Microscopy revealed amorphous material consistent with necrotic spleen with a few pus cells. Haematophageous trophozoites of *Entamoeba histolytica* were seen within this material. The patient made a quick and full recovery with percutaneous drainage (300 ml of pus in total) and oral metronidazole (800 mg tds for 10 days).

Discussion

Amoebiasis is an infection, usually of the colon, caused by *E. histolytica*. It is endemic in all parts of the world where sanitation is poor. Amoebic dysentery is the usual consequence of infection, and amoebic liver abscesses not uncommonly form as a result of haematogenous spread of parasite along the portal vein. Amoebic liver abscesses can usually be diagnosed on clinical grounds, along with a consistent ultrasound appearance, and respond well to metronidazole treatment alone without drainage (as long as rupture doesn't appear imminent). Amoebic abscesses of the spleen have only very rarely been reported before.[6] Aspiration must, therefore, be advocated in order to confirm the diagnosis prior to antimicrobial therapy.

The aetiology of a splenic amoebic abscess is obscure but may result from rupture of a liver abscess into the spleen. Amoebic empyema[7] and amoebic pericarditis[8] have been reported as a result of rupture of an amoebic liver abscess into the pleural or pericardial space, respectively. Alternatively, amoebiasis may cause subacute perforation of the colon, which leads to an inflammatory mass, called an amoeboma, around that part of the bowel. Amoebae may then pass directly from this mass to an adjacent organ, such as the spleen, to give rise to an abscess. An amoeboma, and subsequent splenic abscess, would also be adequately treated by oral metronidazole.

References

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