Splenic abscess: successful non-surgical therapy

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Summary

A 57-year-old man with splenic abscess, demonstrated by isotope scanning, ultrasonography and computerized axial tomography (CAT scan) during the course of a septicaemic illness resulting from culture-positive bacterial endocarditis, was successfully treated with antibiotics alone, resolution of the abscess being confirmed by 2 further scans. This is the second case report of successful conservative treatment of splenic abscess.

KEY WORDS: infective endocarditis, splenic abscess.

Introduction

Splenectomy is widely regarded as an essential component in the management of splenic abscess (Frankel *et al.*, 1966; Pickelman, Payloyan and Block, 1970; Simson, 1980), the results of conservative management with antibiotics alone being generally unsatisfactory (Chaffee, Lasher and Tredway, 1958; Chun *et al.*, 1980). In the present case, because of intercurrent drug-induced renal failure, surgery was contra-indicated. Conservative management, nevertheless, led to full recovery.

Case report

A 57-year-old man had a 6 weeks pyrexial illness with malaise and a 3.7 kg weight loss. On admission, he had features of bacterial endocarditis with pyrexia (39°C), pallor, and a grade 2/6 apical pansystolic murmur. A tender enlarged spleen was palpable 2 cm below the left costal margin.

Streptococcus bovis was cultured from the blood on 2 out of 3 occasions. Two splenic filling defects were demonstrated with the technetium-99-sulphur colloid liver and spleen scan as well as by computerized axial tomography (CAT scan), (Fig. 1 and Fig. 2a and b respectively), but only one hypoechoic defect was shown by ultrasonography.

In view of previously documented penicillin allergy, he was treated with rifampicin, 750 mg daily by

FIG. 1. Technetium-99-sulphur colloid spleen scan (left lateral) showing defective uptake of the isotope at the sites occupied by the two splenic abscesses (A = anterior, P = posterior).

mouth, and intravenous gentamicin, 120 mg twice daily, the peak blood levels obtained with the latter drug being of the order of 6.1 µg/ml and a mean inhibitory serum titre of 1:16. On day 14 of treatment, his temperature reverted to normal and remained so for the rest of his hospital stay.

During the third week of treatment, without a change in the dose of gentamicin, he developed non-oliguric renal failure with a serum urea of 33.5 mmol/litre; a serum creatinine of 650 µmol/litre and a daily urine output of more than 1500 ml. Intravenous vancomycin was substituted for the gentamicin, the initial dose being 500 mg twice a week, increasing to 500 mg daily with resulting peak and trough blood levels of 25.5 µg/ml and 13.7 µg/ml respectively. On day 27, he had melaena, and for the next 3 weeks, he had 7 episodes of melaena. Gastroduodenoscopy, barium swallow and meal, and barium enema showed no abnormality. By day 60, he had been free of bleeding for 11 days and his serum creatinine was 235 µmol/litre. Ultrasonography showed marked reduction of the hypoechoic splenic defect and antibiotics were therefore discontinued.

FIG. 2. (a and b) CAT abdominal scan showing evidence of 2 splenic abscesses (arrowed).

Eleven weeks after completion of treatment, ultrasonography showed complete resolution of the hypoechoic splenic defect confirmed by CAT scan 8 weeks later. There was no clinical splenomegaly and the previously raised erythrocyte sedimentation rate was normal.

Discussion

In this patient, as in 12.1% of the cases reviewed by Chun *et al.* (1980), splenic abscess was secondary to bacterial endocarditis. The basis for the diagnosis of splenic abscess was the combination of tender splenomegaly, septicaemia, and a hypoechoic defect on ultrasonography. The ultrasound findings in such a case contrast with the appearances in splenic infarction where multiple echoes are seen (Itoh *et al.*, 1978). In our patient, confirmatory evidence of a space-occupying lesion came from isotope and from CAT scanning each of which have been used in other studies (Chulay and Lankerani, 1976; Baruch *et al.*, 1981) although Grant, Mertens and Mascarello (1979) considered ultrasonography and CAT scanning to be the most reliable in defining the extent and internal structure of a splenic abscess.

The proper management of these cases is antibiotic treatment in conjunction with splenectomy. Purely conservative treatment is associated with partial improvement and frequent relapses (Chaffee *et al.*, 1958; Frankel *et al.*, 1966; Chun *et al.*, 1980). Dylewski, Portnoy and Mendelson (1979), however, describe the case of a 58-year-old man with cardiac disease and splenic abscess who was treated successfully with a 6-week course of intravenous penicillin, surgical treatment being contraindicated by his poor cardiac status. Resolution of the abscess was confirmed by ultrasonography.

The present patient was considered a poor surgical risk after he developed renal failure complicated by gastrointestinal bleeding. An 8-week course of antibiotics resulted in complete resolution of the abscess.

This favourable response suggests that, provided the response to antibiotics is monitored by scanning techniques, splenic abscess, like pyogenic liver abscess (Herbert, Rothman and Simmons, 1982) can be successfully treated with antibiotics alone. Under special circumstances this could be an alternative to surgical treatment.

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