Physical Signs

Pseudo-splenomegaly as a result of subphrenic abscess

J. Snape, A.R. Baker and Y. Rees

Leicester General Hospital, Gwendolen Road, Leicester, LE5 4PW, UK.

Summary: A case of left-sided subphrenic abscess, secondary to perforation of a carcinoma of stomach, is described. The patient presented with a palpable spleen which was shown to be normal in size but displaced by the subphrenic collection. The importance of correct interpretation of this physical sign is discussed.

Introduction

Although downward displacement of the liver has been described in association with subphrenic abscess on the right side (6.4% in Harley's series, 1955a), downward displacement of the spleen has only been described once in the literature (Lerner, 1970) as far as we are aware. We present a case of left-sided subphrenic abscess presenting with fever and a palpable spleen among other features.

Case report

A 47 year old woman presented in February 1985 with a 3 month history of anorexia, weight loss of one stone and iron deficiency anaemia. While undergoing investigation, her general condition suddenly deteriorated and she complained of sweating, rigors, a dry cough and vague left-sided abdominal pain.

On examination she was anaemic with angular stomatitis and glossitis. Her temperature was 39°C. She had signs of a left pleural effusion and a 2 cm palpable spleen. There was slight tenderness in the left upper quadrant of the abdomen.

Investigations included: haemoglobin 5.7 g/dl and white cell count $16.9 \times 10^9/l$ (90% neutrophils). Radiography of the chest confirmed left pleural effusion from which straw coloured exudate was aspirated. Microscopy of this showed neutrophils but culture yielded no growth. Three successive blood cultures grew no organisms. Ultrasonography of the upper abdomen showed a spleen of normal size surrounded by a large collection of pus (Figures 1 and 2), which was aspirated under ultrasound control. A

fine tube drain was left in the cavity and, in all, 800 ml of foul smelling pus was obtained. An anaerobic Gram-positive coccus, which proved to be a *Peptococcus* sp., was grown from this together with an anaerobic Gram-negative bacillus whose identity remained obscure. Gastroscopy revealed a large tumour of the upper stomach which was biopsied. Histology showed moderately differentiated adenocarcinoma.

She was treated initially with metronidazole, gentamicin and benzylpenicillin but in spite of this developed septicæmic shock. It was felt that drainage of the abscess cavity was inadequate and after resuscitation urgent surgery was performed. At laparotomy a large carcinoma of the greater curve of the stomach was found which had perforated locally in the region of the spleen and tail of the pancreas resulting in a left perihepatic (Halliday & Halliday, 1976) subphrenic abscess. The spleen was confirmed to be of normal size (measuring $13 \times 8 \times 3$ cm) and histology was normal. There were enlarged lymph nodes along the left gastric artery but no hepatic metastases. Via a left thoraco-abdominal incision, the proximal third of the stomach was resected together with the spleen and distal pancreas. Primary anastomosis was then performed between the stomach remnant and the lower oesophagus. The area of the abscess cavity was drained and a feeding jejunostomy was fashioned. The patient made an uneventful post-operative recovery.

Discussion

In patients with a fever, the presence of an enlarged spleen broadens the differential diagnosis. In this patient a diagnosis of subacute bacterial endocarditis was considered. The features of her illness which

Correspondence: J. Snape, M.R.C.P.
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Figure 1 Real time ultrasound scan of the left upper abdomen, showing a spleen (S) of normal size surrounded by a large collection of pus (P). A = anterior abdominal wall.

Figure 2 Real time ultrasound scan of the left upper abdomen, showing the abscess (P) below and the pleural effusion (PE) above the diaphragm (D).

favoured a diagnosis of subphrenic abscess were: fever, rigors, left upper quadrant pain and tenderness and an exudative pleural effusion on the left side.

Over the past 25 years the proportion of subphrenic abscesses on the left has become predominant (Halliday & Halliday, 1976; Patterson, 1977). This fact has been related to the decline in numbers of patients with perforated appendices, and to an increasing number of operations being performed in the left upper quadrant (Patterson, 1977). Although the diagnosis of subphrenic abscess is most often made in the postoperative patient (Halliday & Halliday, 1976), secondary subphrenic abscesses do occur in other patients. The aetiological factors in Lerner's case (1970) remained speculative even though the patient had had a recent herniorrhaphy. Our patient had no history of recent surgery, her abscess occurred secondary to localized perforation of a gastric carcinoma. In Harley's series of subphrenic abscesses 1.6% occurred

secondary to perforated gastric carcinoma (Harley, 1955b). Halliday & Halliday (1976) collected 241 subphrenic abscesses of which 15 (6.2%) followed perforation of a gastric carcinoma. Neither of these authors mention the presence of a palpable spleen in the presentation of these patients or in any of their patients with left-sided subphrenic abscesses.

We suggest that any form of left-sided subphrenic abscess, primary or secondary, may displace the spleen downwards resulting in pseudosplenomegaly. Ultrasound is central in confirming that a palpable spleen is in fact displaced rather than enlarged.

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