Spontaneous rupture of the spleen in early pregnancy

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Summary

Spontaneous rupture of the spleen as a result of laceration by a rib exostosis is described. This unusual case serves to underline the diagnostic difficulties of the acute abdomen in pregnancy.

KEY WORDS: acute abdomen, spleen rupture.

Introduction

Traumatic and spontaneous rupture of the normal (Orloff and Peskin, 1958) and pathological spleen, including those occurring during pregnancy (Sparkman, 1958; Buchsbaum, 1969) have been described. A rib exostosis as a cause of spontaneous rupture has not previously been reported.

Case report

A 32-year-old housewife was admitted in 1977 as an emergency with a short history of severe left-sided pleuritic pain which had occurred suddenly while she was resting. There was radiation to the left shoulder-tip but no cough, dyspnoea, or haemoptysis. She had vomited once. The patient was known to be 14 weeks pregnant.

She had undergone a caesarian section at term 4 years previously for fetal distress.

On examination, she was afebrile with a pulse of 84/min, blood pressure of 110/60 mmHg, and respiratory rate of 18/min. There was reduced expansion at the left chest base with crepitations and a pleural rub. In the upper abdomen there was tenderness to deep palpation, but no signs of peritonitis.

A gynaecologist confirmed a normal 14-week intrauterine pregnancy. Blood screen, urine microscopy and electrocardiography were normal. X-rays of the chest and abdomen were not performed because of risk to the fetus. A diagnosis of pulmonary

embolism was made. Sedation and intravenous heparin was given 10000 units 6-hourly.

Over the next 48 hr, the patient continued to complain of pleuritic and vague upper abdominal pain with anorexia, nausea and an occasional small vomit.

On the third day she collapsed. The patient was very pale and profoundly shocked with a barely perceptible blood pressure and pulse. The abdomen was now markedly distended with shifting dullness and a fluid thrill. At laparotomy, some 3 litres of unclotted blood was evacuated. A normal pregnancy was confirmed. The spleen, of normal dimensions, was thickened and roughened on the convex surface. The lower pole was lacerated and transfixated by an exostosis 2½ cm in length arising from the inner border of the 10th rib (Fig. 1). Splenectomy and exostectomy was performed while 6 units of blood and 2 litres of other fluids was transfused. She made an uncomplicated recovery.

Microscopic examination confirmed laceration of the lower pole below an area of capsular thickening on an otherwise normal spleen.

Seven months later, a healthy male infant was delivered.

Discussion

In some of the early larger series, the mortality from spontaneous rupture was 10% (Orloff and Peskin, 1958) and in the pregnant group maternal mortality was 35% and that for the fetus 70% for all types of ruptured spleen (Sparkman, 1958; Buchsbaum, 1969; Barnett, 1952). These high figures are ascribed to delay in diagnosis and treatment.

It is likely that so-called 'spontaneous' rupture in fact occurs as a result of capsular injury by the lower ribs from trivial blunt trauma (coughing and straining for instance) either unnoticed by the patient at the time, or forgotten since, in the light of subsequent events (Orloff and Peskin, 1958). The spleen, enlarged for any reason, is particularly prone to such injury. In our case, the prominent exostosis arising

FIG. 1. The convex surface of the spleen to show the roughened capsule. The exostosis (dotted outline) has been replaced in the laceration (arrowed).

from the 10th rib had roughened and thickened a circumscribed area of the splenic capsule (Fig. 1) over the years as a result of the respiratory excursions and movement of daily life. Laceration of the unthickened lower pole finally occurred during pregnancy, at a time when splenic size, vascularity and position may be altered.

The mortality will only be reduced by awareness of the possibility of spontaneous rupture of the spleen, and prompt surgical intervention.

Acknowledgments

My thanks to Dr P. Cardew and the Photographic Department for the print and to Miss A. Taft for typing the manuscript.

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(Accepted 7 December 1982)