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Vomiting in pregnancy resulting in oesophageal perforation in a 15-year-old

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Abstract
Spontaneous perforation of the oesophagus is extremely rare in children, as is perforation due to vomiting in pregnancy. We report the case of a 15-year-old in whom vomiting in early pregnancy resulted in oesophageal perforation with subcutaneous emphysema causing marked facial swelling in the absence of other signs. The more common clinical presentation of spontaneous oesophageal rupture (Boerhaave's syndrome) is discussed.

Key words: Oesophagus; Rupture, spontaneous

Case report

A 15-year-old girl, who suspected she was eight weeks pregnant, presented to her general practitioner with a two-day history of increasing facial swelling following prolonged vomiting. She was admitted to the Otolaryngology unit where it was noted she was not dysphagic and had no chest, abdominal or back pain. On clinical examination she was apyrexial with normal vital signs but there was marked subcutaneous emphysema over the upper chest extending into the neck and face. Chest X-ray (Figure 1) demonstrated a pneumomediastinum and the white cell count was normal. The pregnancy was confirmed on both urine testing and ultrasonography.

The patient was starved and rehydrated with intravenous fluids. After consultation with the obstetric team she was commenced on intravenous cefuroxime and metronidazole. Over the following 48 hours she remained apyrexial and generally well with a gradual decrease in the subcutaneous emphysema. Her nausea settled and oral sterile fluids were taken without complication, followed by free fluids and food. She was allowed home on the sixth day with a course of oral antibiotics and on review one week later she remained well, the subcutaneous emphysema having nearly resolved.

Discussion

Spontaneous perforation of the oesophagus (Boerhaave's syndrome) is rare and notably occurs in males following food and alcohol excess leading to vomiting. Other conditions associated with noninstrumental perforation include neurological disease and severe burns (Drakeley, 1987). Generally a dramatic clinical picture results with sudden severe pain in the chest or abdomen, followed rapidly by collapse and septicaemic shock. Clinical examination demonstrates tachycardia, tachypnoea and hypotension with variable subcutaneous emphysema present in the neck, and extending down the chest. Chest X-ray may demonstrate pneumothorax, hydrothorax or pneumomediastinum though less dramatic findings may be misinterpreted (Pate *et al.*, 1989) and the chest X-ray may even be normal (Han *et al.*, 1985). A delay in diagnosis arising from failure to recognize the condition leads to an increase in morbidity and mortality (Richardson *et al.*, 1985; Rosati *et al.*, 1985; Nesbitt and Sawyers, 1987; Pate *et al.*, 1989; Drury *et al.*, 1992). This may be due to clinical features mimicking other conditions.

Atypical chest pain (Ward, 1986) due to spontaneous perforation of the oesophagus has been misdiagnosed as myocardial infarction and acute thoracic aortic dissection (Jaworski *et al.*, 1988). Presentation with haematemesis is recorded as is the incorrect diagnosis of peptic ulceration, and other acute abdominal conditions (Konagaya *et al.*, 1988; Singh and Slovis, 1988).

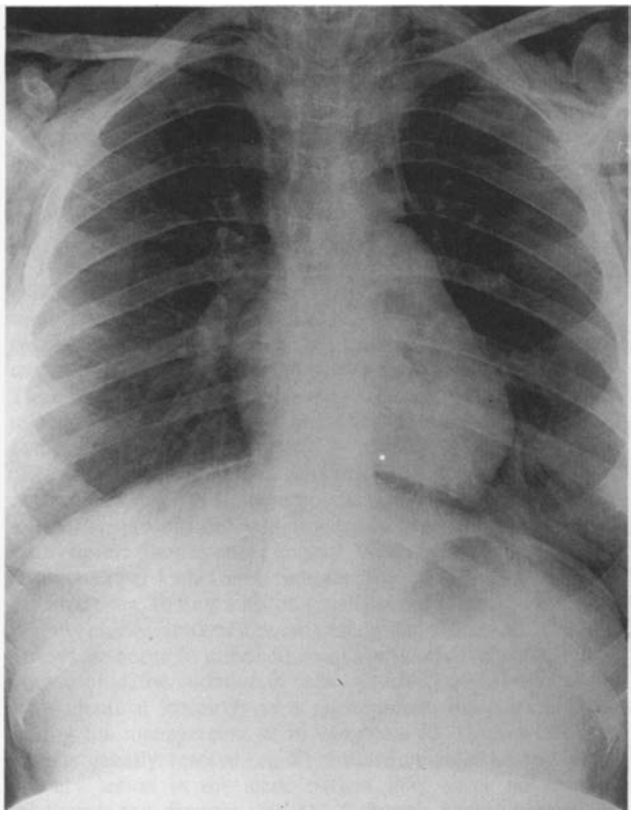

Fig. 1
Chest X-ray demonstrating a pneumomediastinum.

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It has been suggested that this condition is under-diagnosed as perforation in the pharynx and upper oesophagus may produce minimal sequelae (Wake *et al.*, 1991).

Spontaneous perforation of the oesophagus is extremely rare in children suggesting that the oesophagus is more able to withstand sudden pressure changes in this age group (Drakeley, 1987). Perforation as a result of vomiting in pregnancy is also very rare considering the frequency of this symptom in early gestation. In our case the presence of marked subcutaneous emphysema with facial swelling in the absence of other clinical signs was an unusual presentation and the possibility of pneumoparotitis was considered before the diagnosis was confirmed radiographically.

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