

Pleuritic chest pain in a postpartum woman

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CASE REPORT

A 26-year-old woman, gravida 3, para 2, came to the emergency room complaining of pleuritic chest pain and shortness of breath. Twelve days prior, she had a vaginal delivery induced by pitocin. Her recovery was uneventful until the morning of admission when she awoke with bilateral pleuritic chest pain radiating to her shoulders, accompanied by dyspnea at rest. She also described mid-epigastric pain with nausea and anorexia. She denied fever, chills, rhinorrhea, cough, sputum production, haemoptysis, vomiting, change in bowel habits, constipation, diarrhea, or leg pain. The patient did not smoke, did not use oral contraceptives, and was on no medications. She had never had abdominal or gynaecologic surgery.

She appeared comfortable with normal respirations. The heart rate was 80 beats min^{-1} , the respiratory rate 16 min^{-1} , the blood pressure 120/90 mm^{-1} of mercury, and the temperature 37.1°C. The chest was clear. Cardiac auscultation revealed regular rhythm with no murmur, gallop, click or rub. Jugular venous pressure was normal. The abdomen was flat and nondistended with normal bowel sounds. There was mild upper abdominal tenderness with no guarding or rebound. No organomegaly was detected.

Arterial blood gas determination showed a pH of 7.42, pO_2 of 93 mm of mercury, pCO_2 of 37 mm of mercury, with a carbon dioxide content of 25 mmol l^{-1} . A chest radiograph showed no infiltrates or effusions, but demonstrated a large amount of subdiaphragmatic, extraluminal air (Fig. 1).

Further history revealed that on the night before her illness began, the patient had engaged in sexual intercourse for the first time in 4 months, including oral-vaginal insufflation.

In view of the possibility of a ruptured viscus, a surgical consultation was obtained. Subsequent laboratory tests included haemoglobin 139 grams litre^{-1} leukocyte count of $7.1 \times 10^9 \text{ litre}^{-1}$ with 0.64 segmented neutrophils and no bands. Electrolytes, transaminases, and amylase were normal. KUB showed a non-specific bowel gas pattern and confirmed the presence of free subdiaphragmatic air.

The patient was admitted to the hospital for observation. Chest X-rays over the next 48 h showed diminution of the amount of free air. Her pleuritic chest pain improved, and she was discharged.

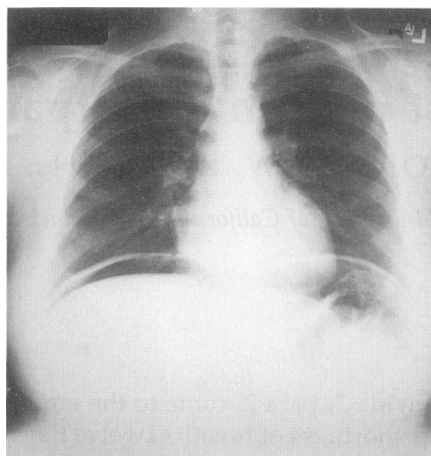


Fig. 1 Chest radiograph demonstrating a large amount of extraluminal subdiaphragmatic air

DISCUSSION

Pneumoperitoneum due to oral-vaginal insufflation is infrequently reported (Wright, 1959; Freeman, 1970; Spaulding & Gallup, 1979; Christiansen *et al.*, 1980; Elam & Ray, 1986; Snelly, 1989), and in most cases has occurred following hysterectomy, apparently due to a rent in the vaginal cuff and direct entry of air into the peritoneum (Spaulding & Gallup 1979; Christiansen *et al.*, 1980; Elam & Ray, 1986). Three cases have been reported in the absence of previous hysterectomy (Wright, 1959; Freeman, 1970; Snelly, 1989). The proposed mechanism is passage of air into the uterus through the cervical os, then to the peritoneum through the fallopian tubes. This patient may have had a partially open cervical os due to her recent delivery. In most cases, patients have been hospitalized for observation to exclude the possibility of a ruptured viscus. In one previous report, the patient was discharged from the emergency room without admission to the hospital (Snelly, 1989).

Diaphragmatic irritation due to pneumoperitoneum should be considered in the differential diagnosis of pleuritic chest pain. When pneumoperitoneum is discovered without a history of recent surgery or instrumentation, and without signs of peritonitis, vaginal insufflation should be considered as a possible cause, even without previous hysterectomy. If such a history is obtained, in the setting of a benign abdominal exam and normal laboratory studies, expectant management may suffice, sparing the patient unnecessary antibiotics or surgery.

Primary care physicians and obstetricians may wish to advise their postpartum patients to avoid sexual practices involving oral-vaginal insufflation.

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