Casedescription
A 24-year-old healthy woman in her first pregnancy had planned
to give birth at home. Despite strenuous labour, she was unable
to deliver and was taken to hospital. At presentation, vital signs
were normal and a healthy child was delivered by vacuum ex-
traction. At the time of delivery, the patient complained of mild
swelling in her neck and throat. In the subsequent hour, these
symptoms worsened. Blood pressure was 120/80, pulse rate 105
beats/min and oxygen saturation was 93% on room air with a
respiratory rate of 20 breaths/min. Clinical investigation revealed
subcutaneous emphysema. The chest X-ray showed pneumo-
mediastinum without signs of pneumothorax (figure 1) and the
ECG was normal. In view of the progressive swelling in the pa-
tient’s neck and face, she was admitted to the ICU for potential
loss of airway. A second chest X-ray did not show a pneumo-
thorax, although mild progression of the mediastinal emphysema
was observed. Therefore, at this point we decided that a chest
CT-scan was not pertinent. she was treated with analgesics and
empiric antibiotics. During the next 20 hours, subcutaneous em-
physema did not increase and she was discharged to the ward
in good clinical condition that was followed by an uneventful full
recovery.

Acute postpartum chest pain may, amongst other causes, be
due to a pulmonary embolus, aortic dissection, or myocardial in-
farction. Spontaneous postpartum pneumomediastinum is rare
with an estimated incidence of 1/100,000 deliveries [1]. This con-
dition was first described by Hamman [2] in 1945 and has subse-
quently been termed Hamman’s syndrome. The condition occurs
classically in young healthy primigravidae during the later stages
of labour [3,4]. However, clinical signs may present several hours
later, as in our case. Although several aspects of the pathogen-
esis of Hamman’s syndrome remain obscure, the spontaneous
rupture of marginal alveoli caused by high intrathoracic pressures
during labour seems the most likely explanation [5]. Interstitial air
bubbles subsequently migrate along the vascular sheaths and
connective tissue planes to the mediastinum where they col-
lect and develop into the clinical image of pneumomediastinum.
Apart from the obvious subcutaneous emphysema, a chest X-ray
is crucial both for the diagnosis and to rule out a pneumotho-
rax. Treatment of Hamman’s syndrome is supportive. The cli-
cical course is usually benign and in most cases the emphysema
disappears within a few days. The chance of recurrence during
subsequent deliveries is uncommon.

In conclusion, acute chest pain after labour, particularly when
it coincides with thoracic subcutaneous emphysema extending
to the neck, should lead to a suspicion of Hamman’s syndrome.

Hamman’s syndrome

PE Spronk1,4, W Landheer2, F Wessels3, JJ Kardux1, M Huisman2

1 Department of Intensive Care Medicine, Gelre Hospitals Apeldoorn, The Netherlands
2 Department of Obstetrics & Gynaecology, Gelre Hospitals Apeldoorn, The Netherlands
3 Department of Radiology, Gelre Hospitals Apeldoorn, The Netherlands
4 Department of Intensive Care Medicine, Academic Medical Centre, Amsterdam, The Netherlands

Keywords - Hamman’s syndrome, pneumomediastinum, labour

Figure 1. Pneumomediastinum without pneumothorax in a patient with Hamman’s syndrome

A) bilateral subcutaneous emphysema in the neck
B) mediastinal air pocket
C) pneumopericardium
Hamman’s syndrome

References

2. Hamman L. Mediastinal emphysema. JAMA 1945; 128: 1-6