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Spontaneous cervical surgical emphysema following childbirth

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Abstract

Objective: We report a case of post-partum surgical cervical emphysema, which is a rare but well recognised complication of labour. By reporting the first case in the ENT literature, we aim to raise awareness of this complication, particularly amongst trainees, to ensure that patients are managed most appropriately.

Case report: A 36-year-old, primigravida woman developed neck swelling and odynophagia post-partum. Surgical cervical emphysema was palpated, with further examination excluding pneumomediastinum and pneumothorax. The patient was managed conservatively, with complete resolution of symptoms within a week.

Conclusions: Surgical cervical emphysema, pneumothorax and pneumomediastinum are all well recognised post-partum complications. The vast majority of cases do not present with respiratory or cardiac compromise and can be appropriately managed conservatively, with expectation of resolution in a fortnight. There is no evidence that such patients are at increased risk during subsequent pregnancies.

Key words: Post-Partum Period; Subcutaneous Emphysema; Neck

Introduction

During labour, considerable forces are generated due to repeated Valsalva manoeuvres. This may lead to subcutaneous cervical emphysema, pneumomediastinum or pneumothorax as a result of rupture of small, intrapulmonary bullae.[1]

Cervical surgical emphysema following labour is a rare complication, with approximately 200 cases reported in the obstetric and anaesthetic literature.[2] However, this condition has not previously been reported in the ENT literature. Here, we describe a case that was referred for an ENT opinion, and we suggest that this complication of labour is one that otolaryngologists should be aware of.

Case report

A 36-year-old, primigravida woman was admitted at term with spontaneous rupture of membranes, following an uneventful pregnancy. The spontaneous normal vaginal delivery of a healthy female infant followed a 10-hour, Syntocinon-assisted labour.

Twelve hours following delivery, a neck swelling was noted, with subsequent odynophagia and the sensation of throat constriction.

On examination, there was no respiratory or haemodynamic compromise, but surgical emphysema was palpated over the lower neck.

Laryngoscopy was normal. A chest X-ray confirmed surgical emphysema with no pneumomediastinum or pneumothorax (Figure 1).

The patient was managed conservatively and over the next 24 hours the symptoms resolved, with a noted reduction in surgical emphysema. The patient was subsequently discharged with ENT follow up.

Review in the ENT clinic one week later revealed a well patient with complete resolution of surgical emphysema; the patient was discharged from subsequent follow up.

Discussion

Cervical emphysema and pneumomediastinum are accepted but rare complications of labour. In the present case, surgical emphysema alone was present; however, the associated complications of pneumomediastinum and pneumothorax must always be excluded. Spontaneous pneumomediastinum is reported to occur in one in every 100 000 deliveries in the UK.[3] It most commonly manifests during the second stage of labour and at delivery.

Known risk factors for the condition include nulliparity and prolonged, active pushing in labour. The mechanism is believed to be rupture of alveoli and tracking of air between pleura into the mediastinum.[4] The lack of transverse fascial planes in the mediastinum allows air to pass unobstructed to the neck and around the larynx.[5]

Symptoms of the condition can include chest pain, dyspnoea, dysphagia, dysphonia, cough and palpitations. Pneumothorax can accompany up to one-third of cases of pneumomediastinum occurring with labour, but may also occur independently of air in the mediastinum.[1] A chest radiograph is mandatory for diagnosis. It is important to be aware of the potentially fatal complications of tension pneumothorax and tension pneumomediastinum; these conditions are diagnosed clinically and require urgent decompression.

Post-partum, spontaneous surgical emphysema, pneumomediastinum and pneumothorax usually run a self-limiting course, with reabsorption of free air occurring within two weeks. In the absence of cardiac and respiratory

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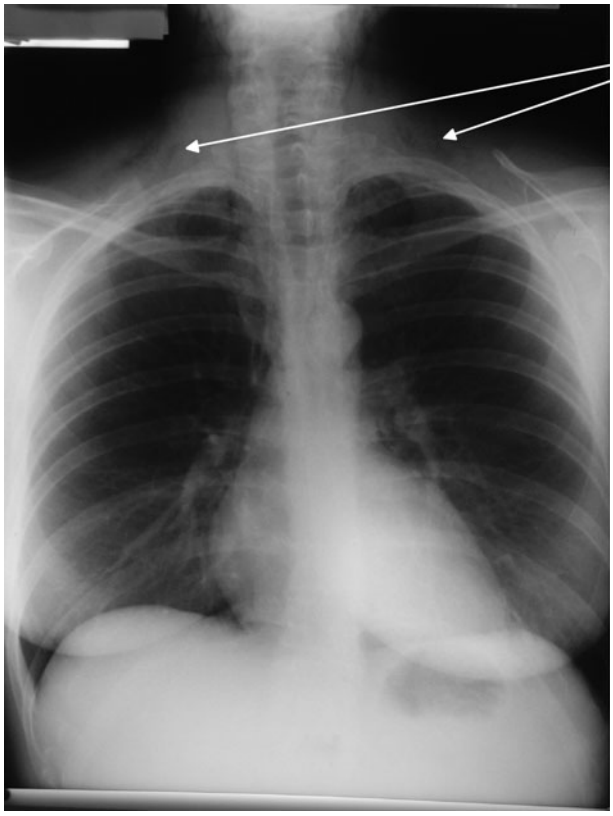

FIG. 1
Chest radiograph; arrows indicate surgical cervical emphysema.

compromise, treatment is conservative, and may include reassurance, oxygen supplementation and analgesics.[4] There have been no reported cases of recurrence, and there is hence no consensus on the use of assisted delivery techniques to reduce labour in subsequent deliveries.[6]

Conclusion

This report describes a case of cervical surgical emphysema which developed 12 hours following a spontaneous normal vaginal delivery. Clinically and radiologically, there was no evidence of pneumomediastinum or pneumothorax. The patient was treated conservatively, with full resolution of symptoms. This report highlights a rare but well described complication of labour which has not previously been reported in the ENT literature. Clinical awareness of this condition and its associated complications, particularly amongst trainees, may help to avoid unnecessary investigation, intervention and patient anxiety.

References

1 Duffy BL. Post partum pneumomediastinum. *Anaesth Intensive Care* 2004;**32**:117–19
2 Jayran-Nejad Y. Subcutaneous emphysema in labour. *Anaesthesia* 1993;**48**:139–40
3 North CE, Candelier CK. Spontaneous cervical surgical emphysema and pneumomediastinum: a rare complication of childbirth. *J Obstet Gynaecol* 2006;**26**:571–2
4 Miguil M, Chekari A. Pneumomediastinum and pneumothorax associated with labour. *International Journal of Obstetric Anaesthesia* 2004;**13**:117–19
5 Sutherland FWH, Ho SYG, Campanella C. Pneumomediastinum during spontaneous vaginal delivery. *Ann Thorac Surg* 2002;**73**:314–15
6 Reeder SR. Subcutaneous emphysema, pneumomediastinum and pneumothorax in labour and delivery. *Am J Obstet Gynaecol* 1986;**154**:487–9

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