



The role of prophylactic antibiotics in subcutaneous emphysema in nulliparous labour: A case report

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Introduction

- Subcutaneous emphysema and pneumomediastinum is a rare condition seen in second stage of labour¹.
- Previous cases thought to be caused by increased intrathoracic pressure during 'pushing', rupturing distal alveoli².
- Important to differentiate from the potentially fatal Boerhaave's syndrome, characterised by retrosternal pain, subcutaneous emphysema and pneumomediastinum³.
- Boerhaave's can result in mediastinitis and mediastinal necrosis, and is potentially fatal⁴.

Patient case

- 28-year-old G1P0, 38 weeks gestation, with an uncomplicated pregnancy, developed sudden retrosternal chest pain and facial swelling during her second stage of labour.
- Her vaginal delivery was otherwise uncomplicated. She was fit and well prior to labour with no respiratory or gastrointestinal issues.
- Within hours postpartum the facial swelling increased, worsening to swelling to her left clavicle and sternum, with increasing pain and shortness of breath after 24 hours of delivery.
- On further investigation with CT neck and chest, she was found to have subcutaneous emphysema (*Figure 1*), with pneumomediastinum (*Figure 2*).
- Respiratory team and surgical team recommended a CT chest with contrast to determine source of emphysema – bronchial vs oesophageal rupture. No bronchial rupture was evident. However oesophageal thinning was noted and Boerhaave's could not be ruled out. (*Figure 3*).
- She was commenced on intravenous Ceftriaxone (2g IV OD) and Metronidazole (500mg IV BD), to treat Boerhaave's prophylactically.

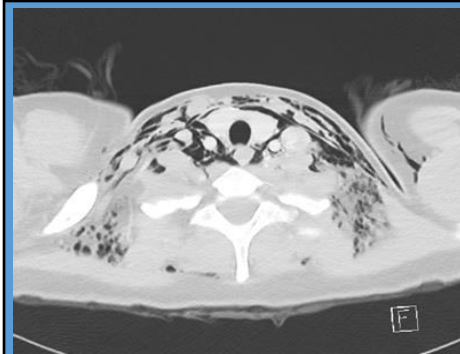


Figure 1. CT demonstrating extensive subcutaneous emphysema

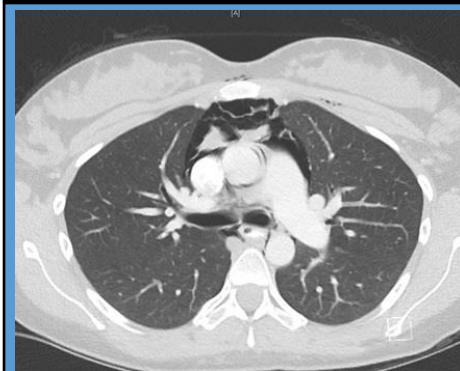


Figure 2. CT demonstrating pneumomediastinum

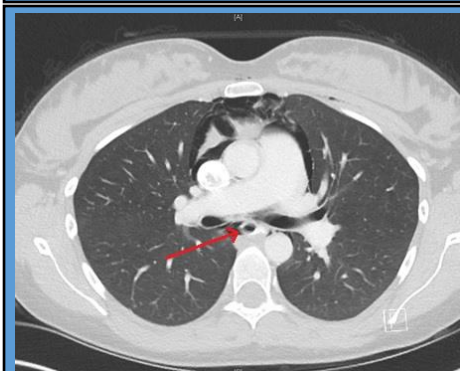


Figure 3. Oesophageal thinning (red arrow indicating area of pathology)

Follow up

- The patient was closely monitored. Surgical team recommended a gastrograffin study to rule out an oesophageal tear.
- No oesophageal leak was identified.
- The patient was managed for Boerhaave's syndrome prophylactically and was discharged home well, on a course of oral Augmentin Duo Forte.
- Swelling significantly improved on follow up. Repeat imaging showed normal CT chest, respiratory and gastrointestinal function normal.

Discussion & Conclusion

- Increased intrathoracic pressure during the second stage rarely causes subcutaneous emphysema and pneumomediastinum.
- Here however we have described a case where it is important to rule out the dangerous possibility of Boerhaave's early.
- In the context of acute retrosternal pain and facial swelling, early suspicion of oesophageal rupture should be raised, and prompt imaging with contrast made a priority.
- We raise the question: should prophylactic antibiotics be the mainstay of initial treatment in the context of the symptomology described, in order to prevent potentially devastating consequences.

References

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