Intrapartum Spontaneous Mediastinum

Madhok D, Gunderson, E
Bundaberg Base Hospital

Background

Spontaneous pneumomediastinum- also known as Hammans syndrome- is a rare presentation in the intrapartum period. Dr. Hamman documented the first case in 1939[1]. Its incidence is now thought to be 1/100,000 deliveries[2]. Alveolar rupture leads to free air tracking through the mediastinum and then into the subcutaneous tissues[1]. Intense Valsalva maneuvers during labour can cause alveolar rupture.[1,2]

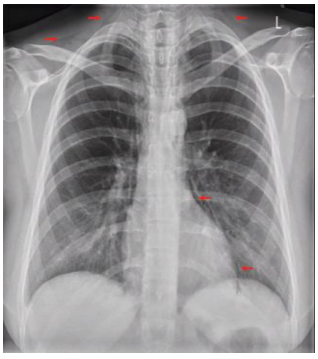

Image 1: CXR confirmed the presence of free air in the pleural spaces and pneumomediastinum.

2. CT scan reconfirmed pneumomediastinum, subcutaneous emphysema and ruled out esophageal injury

Case

A 21year old healthy nulliparous female presented in spontaneous labour at 39+4 weeks gestation. She had an uncomplicated intrapartum course and proceeded to a spontaneous vaginal delivery. She was noted to have a high use of nitrous oxide for analgesia and was mainly on the all fours position while pushing. She developed dysphonia, swelling in the neck and jaw line, and palpable crepitus in the anterior chest wall, neck and jaw approximately 3.5 hours into the post-partum period. She was clinically stable and thus managed expectantly. CXR confirmed subcutaneous emphysema. CT chest confirmed pneumomediastinum and subcutaneous emphysema. She improved over her course of admission and was discharged day 2 postpartum. A follow up chest x-ray 2 weeks later showed resolution of all findings.

Discussion

Barotrauma or alveolar rupture is the underlying cause of this process.[3] Nitrous oxide inhalation is known to result in expansion of closed in spaces due to high solubility relative to nitrous.[4,5] The patients use of nitrous oxide could then have likely heightened the clinical manifestations.[5] A second factor may be the all fours position in that it could increase the strength of Valsalva.

References

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For further enquiries contact: drishti.madhok@health.qld.gov.au