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A Rare Case of Hamman Syndrome.

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ABSTRACT

Presenting a case report of a two and half years old male baby who developed spontaneous pneumo mediastinum and subcutaneous emphysema following general anesthesia. Patient was managed with hundred percent oxygen conservatively and had a spontaneous recovery.

Keywords: Hamman Syndrome, emphysema, anesthesia.

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INTRODUCTION

Subcutaneous emphysema is mostly an iatrogenic complication by which air is introduced into the tissue plane during or immediately after surgery. There are also reports of subcutaneous emphysema resulting from air entering through minor lesions in trachea or pharynx during general anesthesia.

Trauma to chest wall/ rib fracture can allow tracking of air from bronchial tree to subcutaneous tissue. But emphysema occurring solely as a result of excessive air way pressure in patients having pleural blebs also rare [1].

Subcutaneous emphysema occurring spontaneously along with pneumo mediastinum also reported in cases. The first case was reported in 1939 by the physician L.V. Hamman at John Hopkins' Institute in Baltimore. This leak is self-sealing and hence it is unlikely to be associated with bacterial contamination [2].

CASE REPORT

A two and half years old male baby was admitted for the complaints of pulled elbow. Patient had no previous history of any comorbid conditions or history of any disease like tuberculosis [3].

Complete investigations including haemoglobin, total count, differential count, erythrocyte sedimentation rate, electrolytes, chest x-ray were taken. After adequate hours of fasting patient was shifted to the operating room.

Inj. Glycopyrrolate 0.1 mg iv, inj. Fentanyl 25 mcg iv, inj. Ondansetron 2 mg iv. Was given as premedication. Patient was induced with inj. Propofol 25mg iv, inj. atracurium 10 mg iv. After adequate pre-oxygenation, patient was intubated with endo-tracheal tube of size 4.0mm ID orally. After checking for bilateral air entry tube was fixed.

After about 15 min, bag becomes tight. We were not able to ventilate. Systematic examination for causes of tight bag including over flow of gases, closure of APL valve, kinking of endo-tracheal tube, secretions blocking tube was checked. Palpation of the chest revealed crepitus in the chest region. Auscultation of the chest revealed bilateral air entry adequate and equal and there was not associated wheeze.

Mean time there was distension of the abdomen with the distension noted in the groin region also. Patient developed bradycardia. It was treated with inj. Atropine 0.2mg iv. Patient was ventilated with 100% oxygen for approximately 45 mins. Gradually there was resolution of emphysema and swelling decreased. Procedure was done and extubated in the operating room uneventfully. Patient was shifted to PICU.

Consultant pediatric surgeon and pulmonologist opinion were obtained. Post operative chest x-ray revealed air shadows in the left infra-clavicular region. CT chest was taken as per pulmonologist advice. CT chest revealed small packets of pneumo-mediastinum. Patient was treated conservatively with antibiotics and intravenous fluids. Patient was discharged uneventfully.

DISCUSSION

Most common cause of subcutaneous emphysema are trauma to chest wall or surgical damage to the air way. Once there is a trauma to the bronchial tree air can track through the tissue planes to the various parts of the body subcutaneously. Air can track with or without the rupture of the visceral pleura along the broncho-vascular sheaths to mediastinal and subcutaneous tissues [5-7].

Barotrauma causing alveolar rupture and subcutaneous emphysema is mostly associated with pneumothorax. In our patient pneumothorax was not present either intra-operatively or post-operatively. Further emphysema occurring solely as a result of excessive air way pressure is also rare [1].

In our case, patient was ventilated manually. Further there was no history of infectious disease like tuberculosis which can cause spontaneous emphysema [3, 4]. Palpation of the patient revealed “crepitus” in the left axilla, left anterior abdominal wall and scrotum [8].

Pneumo-mediastinum is a rare, benign condition in which air leaks through the alveolar membrane and collects in mediastinum. In the absence of underlying pathology conservative treatment is sufficient for remission. Complications are infrequent [9].

Hence, in the absence of underlying pathology, this is a case of spontaneous subcutaneous emphysema along with pneumo mediastinum which resolved after conservative management, probably a case of hamman’s syndrome [10].

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