LETTER TO EDITOR (VIEWERS CHOICE)

SUBCUTANEOUS EMPHYSEMA: A RARE PRESENTATION OF UNNOTICED FOREIGN BODY

Sunita Arora, Gursharan Singh Narang, Jaskaranjot Kaur, Anubha Khera

A 1 year old male child presented with rattling cough of 15 days duration which was and swelling in the neck few hours prior to admission which started from the upper chest and then progressed on to the neck and jaw. There was no fever, trauma, vomiting or respiratory distress at the time of presentation. On examination, swelling was soft and crepitus was present. There was no tracheal shift or shift of apex beat. Bilateral air entry was vesicular and equal with no adventitious sounds. On x-ray chest and neck, there was air in the subcutaneous tissue but no pneumothorax or pneumomediastinum (fig 1). But after 48 hours the child developed respiratory distress and subsequent x-rays showed right sided pneumothorax and right sided pulmonary infiltrates. The chest tube was inserted on the right side which was subsequently removed after 3 days after lung expansion but fever, cough and tachypnea were not improving. A CT chest was done which showed a foreign body in the right main bronchus with right sided emphysema and mildly shifted cardiac shadow (fig 2). Rigid bronchoscopy was done and it showed a very small piece of ground nut cover surrounded all over by thick tenacious mucus which was removed by suctioning and there was marked improvement in respiratory distress and fever within 48 hours.

Fig 1: X-Ray chest and neck showing subcutaneous emphysema

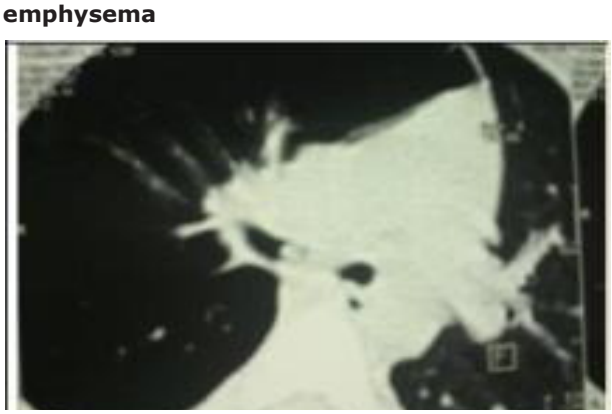

Fig 2: CT scan showing foreign body in right main stem bronchus and right lung emphysema

Subcutaneous emphysema arises from break in continuity of respiratory tract or perforation of GI tract, infection of soft tissues by gas forming bacteria, blunt trauma (1) or surgical procedure involving respiratory or alimentary structures of neck, violent coughing, retching or asthma attack. (2) Foreign body inhalation is relatively an uncommon cause of subcutaneous emphysema. (3,4) A possible mechanism is alveolar rupture into bronchovascular sheath leading to pulmonary interstitial emphysema followed by tracking of air centripetally into mediastinum because of relative negative pressure with respect to alveoli and lung parenchyma. Pneumomediastinum is decompressed by tracking along tissue planes into neck. (3,5) Subcutaneous air subsequently reabsorbs.

CT scan is an excellent modality to delineate extension of air, reveal hidden condition which may not be apparent on routine x rays as was seen in our case. (6) Present case highlights that in addition to other relatively common causes of subcutaneous emphysema, possibility of foreign body should also be kept in mind.

REFERENCES

1. Dissanaike S, Shalhub S, Jurkovich GJ. The evaluation of pneumomediastinum in blunt trauma patients. J Trauma. 2008; 65: 1340-1345.
2. Maunder RJ, Pierson DJ, Hudson LD. Subcutaneous and mediastinal emphysema. Pathophysiology, diagnosis, and management. Arch Intern Med. 1984; 144:1447-53.
3. Hu M, Green R, Gungor A. Pneumomediastinum and subcutaneous emphysema from bronchial foreign body aspiration. Am J Otolaryngol. 2013; 34: 85-88
4. Ciftci AO, Bingol-Kologlu M, Senocak ME, Tanyel FC, Buyukpamukcu N. Bronchoscopy for evaluation of foreign body aspiration in children. J Pediatr Surg. 2003; 38: 1170-1176.
5. Chalumeau M, Le Clainche L, Sayeg N, Sannier N, Michel JL, Marianowski R, et al. Spontaneous pneumomediastinum in children. Pediatr Pulmonol. 2001; 31: 67-75.
6. Ho AS, Ahmed A, Huang JS, Menias CO, Bhalla S. Multidetector Computed Tomography of Spontaneous Versus Secondary Pneumomediastinum in 89 Patients: Can Multidetector Computed Tomography be Used to Reliably Distinguish Between the 2 Entities? J Thorac Imaging. 2012; 27: 85-92.

From: Department of paediatrics, Sri Guru Ram Das Institute of Medical Sciences and Research, Vallah, Amritsar, India.

Address for Correspondence: Dr. Gursharan S. Narang, Professor, Dept. of Paediatrics, Sri Guru Ram Das Institute of Medical Sciences and Research, Vallah, Amritsar. Email: gsnarang321@gmail.com

E-published: 1st April 2013 **Art** # 20

DOI No. 10.7199/ped.oncall.2013.20

Quick Response Code