



PRE-EMINENCE OF HISTORY : A CASE REPORT OF FOREIGN BODY BRONCHUS AND ANAESTHETIC MANAGEMENT.

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KEYWORDS :

INTRODUCTION:

Paediatric tracheobronchial foreign body aspiration can be a life threatening emergency especially in young children. Very few patients with foreign body aspiration reach the hospital in time. Early diagnosis and prompt treatment is indispensable in such cases in order to protect the child from serious morbidity and mortality. Paediatric airway always poses a challenging and exacting situation for an Anaesthesiologist, Pulmonologist as well as Otorhinolaryngologist. A good coordination between them is an overriding concern for an optimal outcome.

AIMS & OBJECTIVES:

Early confirmation of foreign body aspiration and providing safe and effective anaesthesia during Rigid Bronchoscopy.

CASE REPORT:

An 11yrs old child was brought to casualty by his panic struck parents in our hospital with an alleged history of foreign body aspiration accidentally 2 days back. The patient was frantic and presented with complaints of difficulty in breathing, chest pain and was unable to eat or drink. On general examination, the patient's GCS was 15/15, Pulse-110, RR- 52, Spo2 - 88% on room air, afebrile, B.P. - 104/64 mmHg.

On systemic examination, Respiratory System - Air entry normal on right side and absent on left side, Cardiovascular system - S1 S2 normal, Per abdomen - soft & non tender, CNS - conscious, oriented to time, place and person but in a cramped position. Chest X-ray PA view showed left sided Lung collapse, though there was no foreign body visible grossly. CECT Chest was already done which reported left sided lung collapse but no evidence of foreign body. However, a positive history of aspiration of a pen's end plug given by the patient, along with the radiological feature of lung collapse, immediately led the team of Anaesthesiologist and Otorhinolaryngologist to take up a decision of rigid Bronchoscopy.

Fasting status was confirmed. Blood investigations Hb, BT CT, blood sugar, serum electrolytes were done which were in normal limit. Patient was taken in the operation theatre and all standard monitoring, pulse oximetry, EtCO₂, ECG, NIBP and temperature probe were put in place. Patient was taken on Jackson - Rees circuit attached to O₂ source on spontaneous ventilation, where a high pitched continuous whistling sound was noted. SpO₂ levels were 92%, HR-110/min.

After pre oxygenation with 100% oxygen 5 minutes, Premedication was done with inj. Fentanyl 2 microgram/kg i.v., inj. Midazolam 0.04mg/kg i.v., inj. Glycopyrrrolate 10microgram i.v. and inj. dexamethasone 0.4 mg/kg was given. Patient was induced with inj. Propofol 2 mg/kg along with inhalational Sevoflurane. As the patient went into apnea, normal laryngoscopy was done and glottis was sprayed with 1% Lignocaine and the patient was handed over to the Surgeon for rigid bronchoscopy. Bronchoscope was inserted through the glottic opening and the anaesthesia circuit was attached to the ventilating port (side arm) of the bronchoscope for allowing manual jet ventilation. For maintenance, graded doses of propofol and fentanyl were used with Sevoflurane. It took a total of 1-2 minutes to extract the foreign body which was the pen's end plug with a small hole in it. SpO₂

levels dropped to 90% and the patient was taken over to resume bag and mask ventilation. On further achieving the SpO₂ levels to 99% patient was handed over to ENT Surgeon to re-examine the tracheobronchial tree, vicinity of glottis and vocal cords for any second foreign body or remnants, this time a small dose of neuromuscular blocking agent Inj Succinylcholine 10mg was given to facilitate the procedure and avoid chances of trauma and airway irritation and cough. After successful re-examination the patient was handed over to the Anaesthesiologist for controlled positive pressure ventilation until the patient was woken up and protective airway reflexes had returned. The post-operative period was uneventful and the patient was shifted to PICU for postoperative care and monitoring.

1.Pre operative chest x-ray showing collapse lung 2.Foreign body(pen end plug) 3.Post operative chest x-ray



Figure1

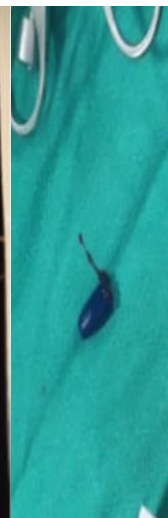


Figure2

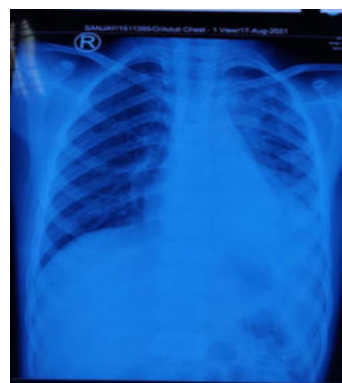


Figure3

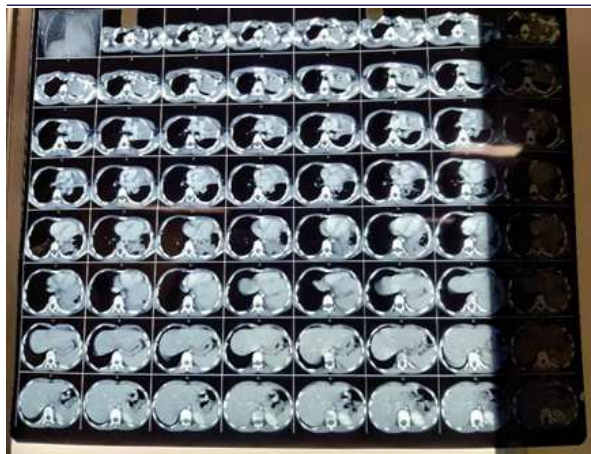


Figure4 CECT CHEST

DISCUSSION:

Maintaining adequate ventilation and oxygenation is difficult as pulmonary gas exchange is reduced due to obstruction of airway by foreign bodies². In this case, the pen's end plug caused severe constriction in the bronchus with airway oedema and the whistling sound pertained to a small hole in the plug which behaved as an orifice that led to decrease in pressure and increase in velocity of gas flow³. When pressurised turbulent flow flows through an orifice, it creates sound waves, pressure fluctuations and generation of noise⁴. The presence of a lumen within the foreign body permitted ventilation and the inert nature of the foreign body were the factors responsible for relative lack of symptoms. Tracheo-bronchial foreign bodies, especially in children, are fraught with respiratory obstruction and can even lead to death. Prognosis and outcome depends upon various factors like age of patient, presentation, duration of impaction, and surgical skills. Management approach has to be systematic. Pre Anaesthetic Checkup, preoperative radiological assessment followed by rapid intervention usually results in a favourable outcome.

CONCLUSION:

Cases where foreign body aspiration incident is suspected, a good history and clinical examination help to reach a correct diagnosis and PAC is of paramount importance for preparedness and perioperative management. If not witnessed, treatment can get delayed as symptoms are nonspecific. (Early diagnosis, prompt treatment, vigilant monitoring and unanimity between anaesthesiologist and surgeon are of foremost importance in managing such cases as there is sharing of airway without securing airway.

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