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Atypical presentation of the foreign body aspiration in child

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Abstract
Sudden onset of breathlessness, wheeze, and cough with respiratory distress are the typical presentation of the foreign body aspiration. We are presenting a rare case of foreign body aspiration that has features of pneumothorax. An 8 year old male child complaining of the left sided dull aching constant chest pain 3 days prior to the presentation suddenly becomes drowsy and blue (cyanosed). At emergency SPO2 was 33 %. Urgent portable X-ray chest was done and left sided pneumothorax was detected. Urgent needle decompression was done, oxygen was given, and there was slight increase in the saturation. Patient was immediately shifted for the CT scan which showed foreign body in the left main bronchus with collapse of the left lung & pneumothorax. Consolidation was also seen in the right lower lobe possibly secondary to the aspiration. Bronchoscopic removal of the foreign body was done and it was found to be cap of a pen. Chest tube was inserted for the pneumothorax. Patient showed dramatic improvement immediately after the foreign body removal. Antibiotic for pneumonitis and other supportive therapy were given. Follow up CT after 6 days showed expanded left lung and resolution of the pneumonia on the right side. Very few literatures are available about foreign body aspiration presenting as pneumothorax and almost no literatures in our setting.

Keywords: saturation, pneumothorax, bronchoscopic removal

Introduction

Incidence of foreign body aspiration (FBA) is common among the children under four years of age and very rare in school going child [1, 2]. In delayed presentation, the diagnosis becomes more difficult due to severe pulmonary complications [3]. Blazer *et al*. (1980) was first person reporting Pneumothorax, the rare complication of the foreign body aspiration. Development of Pneumothorax may be possible because of ball-valve effect of the acute obstructive emphysema by the foreign body [7]. High index of suspicion and timely diagnosis and treatment are mandatory to prevent the grave complications.

Case Presentation

An eight-year-old male child was complaining of dull aching constant left sided chest pain since 3 days. Their parents ignored the seriousness as the child could play and was no problem in doing the daily activity, unless their parents noticed that the child was drowsy and blue (cyanosed) and was semiconscious. The child was immediately brought to the emergency at the BPKIHS where saturation (SPO2) was found to be 33 %. X-ray chest was done and left sided pneumothorax was found. Urgent needle decompression was done, oxygen was given, and there was slight increase in the saturation. After the initial stabilization, child was urgently shifted for the CT scan. CT scan showed slight hyperdense foreign body in the left main stem bronchus with cut-off of the bronchus distal to it resulting in the collapse of the left side of the lung parenchyma. Pneumothorax was also seen and area of the consolidation also noted in the right lower lobe of the lung parenchyma possibly secondary to the aspiration, summarized in figure 1.

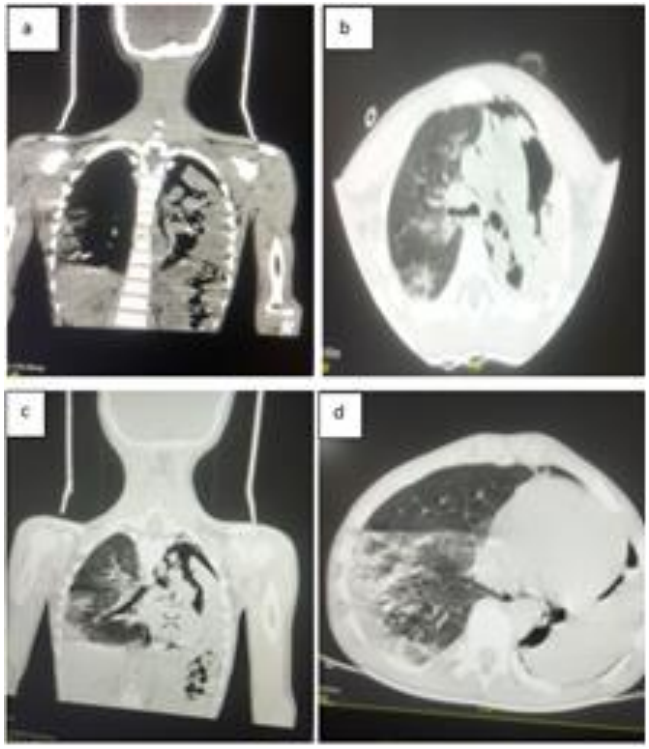

Fig 1: shows hyperdense foreign body in left main stem bronchus (a) resulting in the collapse of the left lung parenchyma (b). There is also evidence of pneumothorax (b, c) on the left side and right lower lobe consolidation (d).

Bronchoscopy was done and the foreign body was removed and it was found to be the cap of a pen. Antibiotic was given for the pneumonitis and management of the pnemothorax and other supportive treatment were given. Patient showed significant improvement over the course of the hospital stay and had good resolution of the symptoms. Second CT scan

was done after the six days interval of the first CT scan showed expansion of the left lung parenchyma and near complete resolution of the left sided pneumothorax and the right sided pneumonitis, summarized in figure 2**.**

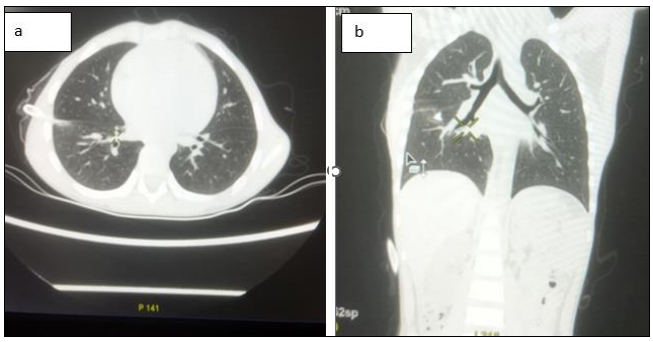

Fig 2

Figure 2 is the CT performed post bronchoscopic removal of the foreign body after six days interval from the first CT showing complete expansion of the left lung parenchyma and resolution of the left sided pneumothorax with near complete resolution of the right sided pneumonitis.

Discussion

Aspiration of a foreign body in the children is common causes of morbidity, sometimes resulting in deaths. Behind drowning and road traffic accidents or collision by vehicle, third leading cause of preventable mortality in the children of 1-4 year of the age is mechanical suffixation [9]. High index of suspicion, early diagnosis and removal of foreign body plays crucial role preventing severe respiratory complications and in reduction of the mortality.

Common complications of the foreign body aspiration are lung collapse, aspiration pneumonitis and severe respiratory distress[9]. Pneumothorax is the very rare complication. Our case was one of the cases of such a rare presentation. Also the diagnosis was difficult as the child was slightly beyond the common presenting age group and lack of the history of any foreign body aspiration. The delay in presentation of the cap of the pain lodged in the left main stem bronchus in our case was due to overlooking of the occasional left sided chest pain which child was complaining since 3 days.

Since our hospital is a tertiary care centre with possible equipped facility of the CT scan, the foreign body was quickly detected and bronchoscopy guided aspiration was done. In the setting of the periphery, radiologist sometime has to rely on the indirect signs of the radiolucent foreign body such as lung collapse, which may be false negative in approximately 30 % of the cases [9].

Conclusions

Our case was one of the rare cases of the foreign body aspiration presenting as pneumothorax in child beyond the common age group of presentation. Very rare cases are reported in the literatures about this rare presentation of the foreign body aspiration and almost negligible study in our setting. We recommend high index of suspicion in the child who constantly present with few nonspecific symptoms such as occasional minor chest pain.

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