Case report

Stridor in a child: It’s diagnostic challenges

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ARTICLE INFO

Keywords:
- Trachea
- Foreign body
- Bronchoscopy

ABSTRACT

Introduction: Foreign body aspiration (FBA) is an extremely serious life threatening condition in infants and children.

Case report: We are reporting a case of multiple foreign bodies lodged in respiratory tract in an infant.

Discussion: FBA is the most common cause of accidental death among infants and toddlers.

Conclusion: History suggestive of or even suspicion of FBA is enough for subjecting the child for further confirmatory test such as rigid endoscopy in spite of negative imaging modalities.

1. Introduction

Foreign body aspiration (FBA) in the airway of children is a life-threatening clinical situation responsible for many deaths each year. Tracheal FBs usually present in the emergency department with sudden onset of respiratory distress requiring urgent intervention.

2. Case report

A ten months old female infant was brought to our outpatient department by parents with alleged history of foreign body aspiration, a plastic bead of a necklace (Fig. 2D and E) while playing, a week ago. Baby had mild cough and developed loss of voice, was taken to local paediatrician where chest x ray and multiple detector computed tomography thorax (MDCT) was done; both were reported as normal (Fig. 1A, B and C). Since the symptoms persisted with cough and loss of voice, baby was referred to our institute for further management. At presentation, baby was playful with mild stridor and loss of voice. Hence, immediately baby was taken for diagnostic rigid bronchoscopy. To our surprise, we found three stacked plastic beads in the trachea; one lodged at glottic inlet between vocal cords, third one lodged in the lower trachea just above right main bronchial orifice. The glottic FB was diagnosed by direct laryngoscopy and retrieved by a peanut holding forceps. Then the rigid bronchoscope was inserted and the two other FBs were removed serially by peanut holding forceps uneventfully (Fig. 2D and E). Post op recovery was uneventful and baby was discharged after 6 hours.

3. Discussion

Foreign body aspiration (FBA) can be disastrous life threatening event, if the aspirated object completely obstructs the airways leading to asphyxia and sudden death [1–5]. Signs and symptoms depend on the severity of the grade of obstruction. The organic FBs such as peanut and seeds are most common and most pathognomonic compared to non organic ones in children [1–6].

The clinical features depend on the type, location and the duration of FBA. The most common symptoms at presentation in childhood are choking, persistent cough, wheezing, stridor and pneumonia [1–7]. Chest radiography is the considered as the investigation of choice in FBA. Computed tomography of the chest is indicated in chronic or residual FBs after bronchoscopy or children with mild symptoms [1–6]. However, history is often the most important and sometimes the only clue to diagnosis of FBA as physical signs and radiological investigations may be absent or even negative in the presence of a foreign body. A plain chest radiograph has relatively low sensitivity and specificity for identifying FBA and should therefore not be relied on in confirming or excluding a diagnosis of FBA [1–4,6].

Rigid bronchoscopy is indicated for both confirming the diagnosis as well as for therapeutic purposes in FBA [1–6].

Between 10 and 40% of patients with endoscopically confirmed aspirated foreign bodies do not have abnormalities in their chest radiographs [1,3,4, and 7].

Computed tomography is often useful in delineating the exact shape, location, volume and form of FBA and can help the surgeon plan for operative bronchoscopy and safe removal of the foreign body [5–7].

In our case, multi detector computed tomography (MDCT) was not...
suggestive of any FB (Fig. 1B and C), since airways were not compromised giving false negative report and the neck including the glottis area was not covered during imaging.

Surprising facts in our case were; playful happy baby presented to us with history of FBA and most significantly with the loss of voice since the event, baby had normal chest radiography as well as MDCT (Fig. 1A, B, C), where sections of neck including glottis were missing highlighting only the chest. Under general anaesthesia; the glottic FB was diagnosed and retrieved just by direct laryngoscopy and peanut forceps. Since the FBs were plastic beads with a central hole, airways were not compromised except the loss of voice due the lodgement of one of the FBs at glottis between vocal cords (Fig. 2D and E).

As per literature search, author found two case reports, one was of multiple FBs betel nut pieces in the right bronchus in a nine month infant by Gupta et al. and another was of a double localisation of multiple FBs each in oesophagus and bronchus by Sami et al. in a one year old child [7,8]. Hence, his is the first ever case of multiple tracheal FBs from glottis to right main bronchial orifice; which was managed successfully with timely intervention avoiding disastrous consequences.

4. Conclusion
Whenever there is strong history and clinical suspicion of FBA, the attending clinician should advise chest radiography or computed tomography of chest (if required) including the neck and glottis region. But however, if these imaging modalities are not suggestive of FBA, bronchoscopy under general anaesthesia should be planned to confirm the diagnoses as well as for retrieval of FBA.

Appendix A. Supplementary data
Supplementary data to this article can be found online at https://doi.org/10.1016/j.rmcr.2020.101011.

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