CASE REPORT

A foreign body of the larynx misdiagnosed as vocal cord paralysis

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SUMMARY

Foreign bodies in the aerodigestive tract continue to be a common problem that contribute significantly to high morbidity and mortality all over the world. Laryngeal foreign bodies may present with less severe symptoms compared with lower respiratory tract foreign bodies, resulting in misdiagnosis, confusion and delay in diagnosis. Rigid endoscopy with forceps removal under general anaesthesia is the preferred management modality. This case is described to show the importance of a detailed history and examination including X-ray neck in children to rule out any radiopaque laryngeal foreign body as a delay in diagnosis and management can lead to life-threatening complications.

BACKGROUND

Foreign body aspiration is an important cause of morbidity and mortality and is a major cause of accidental death in children.¹ Several factors leading to high incidence of aerodigestive tract foreign bodies in this age group include social factors such as lack of parental supervision, children's habit of putting objects in their mouth and crying or playing during eating. Some anatomical factors such as absence of molar teeth, inadequate control of deglutition² are also responsible. Accidental aspiration of objects tends to be twice as common in boys. The incidence of foreign bodies is greatest in children under 3 years of age³ and the most common foreign bodies described are peanut, coins, etc.

CASE PRESENTATION

A 6-year-old boy was referred to us by a medical practitioner as a case of vocal cord paralysis. The child had attended to the medical practitioner with mild grade fever and an inability to speak for 7 days. As there was history of mild grade fever previous to loss of speech, diagnosis of vocal cord paralysis was assumed and conservative treatment started. Detailed history suggested loss of speech was sudden in onset and there was pain in his throat during swallowing. On examination the child was agitated with an inability to speak or even swallow his saliva. Oral cavity and oropharynx examination was normal. There was no respiratory distress and bilateral air entry was equal and adequate with no crept or wheezes. Previous chest X-ray was normal. As painful swallowing one of the symptoms was against the vocal cord paralysis foreign body at the level of larynx was suspected. Direct laryngoscopy was carried out to rule out any foreign body which revealed some tubular foreign

Figure 1 X-ray of the neck showing metallic spring at the level of larynx.

body was visualised in the larynx. After examination an immediate X-ray neck posteroanterior and lateral view was performed and a radiopaque foreign body (a spring) was located at the level of the vocal cords (figures 1 and 2). The child was planned for removal of foreign body with the help of direct laryngoscope under anaesthetic guidance. After proper visualisation the foreign body was grasped with the help of foreign-body grasping forceps and removed gently to avoid injury to vocal cords. The postoperative period was uneventful.

Figure 2 X-ray of the neck, lateral view showing metallic foreign body at the level of larynx.

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and no complication either of the technique or anaesthesia was recorded and the patient was discharged the next day with proper advice.

INVESTIGATIONS

X-ray of the neck posteroanterior and lateral view.

DIFFERENTIAL DIAGNOSIS

Vocal cord paralysis.

TREATMENT

After proper visualisation the foreign body was grasped with the help of foreign-body grasping forceps and removed gently to avoid injury to vocal cords.

OUTCOME AND FOLLOW-UP

The postoperative period was uneventful and no complication either of the technique or anaesthesia was recorded and the patient was discharged the next day with proper advice.

DISCUSSION

Children under the age of 3 years carry the highest risk, as they are inclined to explore objects with their mouth.³ Children are naturally susceptible to be involved in foreign body injuries due to lack of molar teeth, the tendency to oral exploration, to play during the time of ingestion and the poor coordination of swallowing.⁴ The present case reflects the spectrum of presenting symptoms of airway foreign bodies. The majority of foreign body passes through the glottis into the trachea and main bronchus so that larynx is not a common site of their lodgement. Review of the literature shows that the majority of foreign bodies occur in the right bronchus compared with the left and the incidence is lower in the larynx and trachea. Foreign body with sticky quality or thorny foreign body (irregular shaped) may get lodged in the larynx and the rima glottidis being the narrowest part of the larynx, is the most common site of the lodgement of such types of foreign bodies.⁵ Any foreign body in the larynx usually presents as a respiratory emergency. The initial symptoms like gagging and choking may pass unnoticed especially if the child is alone at the time of foreign body ingestion. Aphonia is one of the most common symptoms in case of laryngeal foreign bodies. In this case an unusual and interesting

foreign body, a metallic spring, was found at the level of larynx with a part of the ring of the spring engaged to the vocal fold. As aphonia without respiratory distress was in favour of vocal cord paralysis but the point against diagnosis was pain during swallowing and fever. Painful swallowing is not associated with the vocal cord paralysis suggesting the other differential diagnosis. If the lodged foreign body is hollow which provides sufficient space for ventilation then presenting symptoms are different. In every case of suspected foreign body ingestion, proper detailed history with examination, laryngoscopic examination including X-ray of the chest with neck must be carried out.

Learning points

- ▶ Foreign bodies in the aerodigestive tract are a common problem with high morbidity and mortality.
- ▶ Hollow foreign bodies usually present with less severe symptoms as compared with others resulting in misdiagnosis, confusion and delay.
- ▶ Direct laryngoscopy with X-ray of the neck must be performed in every suspected case.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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