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Case Report

Foreign body lodged in the subglottic area: a case report in a child

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ABSTRACT

Subglottic foreign bodies are rare and represent an extreme emergency that can threaten life. Our aim is to share our experience in the management and multidisciplinary approach to a subglottic foreign body in a child. We report the case of a 4-year-old child from a rural area, who was admitted as an emergency. He was referred by the pediatric team after presenting with symptoms of foreign body aspiration. The general examination revealed laryngeal dyspnea (stage IV) with unstable hemodynamic parameters. ENT examination showed pharyngeal granulations; near-obstructive hypertrophy of the inferior turbinates, muco-purulent rhinorrhea with pale nasal mucosa; cerumen plugs, and intact tympanic membranes. Pulmonary auscultation noted crackles in both lung fields. We diagnosed a laryngo-tracheal foreign body complicated by stage IV laryngeal dyspnea. The child underwent an emergency tracheostomy followed by endoscopy and removal of the foreign body. The postoperative course was uncomplicated. Although rare, subglottic foreign bodies present a challenge for early management. Therefore, we emphasize to our colleagues the severity of subglottic foreign bodies. Prevention is the best therapeutic alternative.

Keywords: Foreign body, Subglottic, Management, Child

INTRODUCTION

Foreign bodies (FB) in the lower respiratory tract (LRT) are the presence of an inert or living object, which has been inhaled, at any point within the laryngotracheobronchial tree.[1] Their inhalation occurs accidentally and constitutes a respiratory emergency that can endanger life. Subglottic localization is rare. The narrowness of the subglottic region helps explain the frequency of foreign body entrapment, which can lead to severe laryngeal dyspnea.[2] Management has benefited from advances in endoscopy and resuscitation.[3] Sometimes, emergency tracheostomy is required in the face of extreme respiratory distress.[4,5]

We share our experience in the management of a subglottic foreign body in a child within our context.

CASE REPORT

The patient is a 4-year-old child from a rural area, the youngest of a set of twins with a history of recurrent rhinitis. He was admitted as an emergency for stage III laryngeal dyspnea. The onset of symptoms was abrupt, marked by the inhalation of a foreign body resembling a fishbone during a meal. According to the parents, the child exhibited signs of foreign body aspiration. They initially consulted a local healthcare facility, but after unsuccessful

extraction attempts, the child developed stage II laryngeal dyspnea. He was then referred to the pediatric department at CHU Conakry, where the diagnosis of a lower respiratory tract foreign body was made. He was promptly referred to us for management.

Upon admission, the child was conscious but agitated and anxious, presenting with stage IV laryngeal dyspnea according to Chevalier Jackson and Pineau, with suprasternal, supraclavicular, and intercostal retractions (Figure 1). Vital signs were as follows: blood pressure=100/65 mmHg; temperature=37.5°C; pulse=176 bpm; respiratory rate=12 cycles/min; and oxygen saturation=78%.

Figure 1: Child presenting with stage IV laryngeal dyspnea.

ENT examination revealed pharyngeal granulations; near-obstructive hypertrophy of the inferior turbinates; muco-purulent rhinorrhea with pale nasal mucosa; cerumen plugs, and intact tympanic membranes. Pulmonary auscultation noted crackles in both lung fields. Examination of other systems was normal. Cervicothoracic X-rays (frontal and lateral views) did not show any radio-opaque foreign body. We diagnosed a lower respiratory tract foreign body complicated by stage IV laryngeal dyspnea.

Figure 2: Child who underwent an emergency tracheotomy.

The child underwent an emergency tracheostomy (Figure 2). Exploration revealed a subglottic foreign body. We performed extraction and suction of laryngo-tracheo-bronchial secretions (Figure 3). There were no intraoperative accidents or incidents. Post-operative care included administration of paracetamol (60 mg/kg/day for 5 days), cefotaxime (100 mg/kg for 7 days), dexamethasone (0.3 mg/day for 5 days), and saline solution (nasal lavage every 8 hours for 14 days). Tracheostomy tube care was regular. Decannulation was performed on day 2. The postoperative course was uncomplicated.

Figure 3: Foreign body, such as a fishbone, lodged in the subglottic region.

DISCUSSION

Laryngeal respiratory emergencies, although rare, can present management challenges in pediatric settings.[6] The severity of laryngeal respiratory distress depends on factors such as age, etiology, underlying health conditions, the speed of diagnosis, and the proper preparation of the child before intervention by a specialized service (pediatric resuscitation, ENT).[7] Indeed, subglottic foreign bodies are a rare and extreme emergency.[6] Our case involved stage IV laryngeal dyspnea, which had compromised the child's vital prognosis.

The diagnostic difficulty of subglottic foreign bodies remains evident.[6] As with any lower respiratory tract foreign body, identifying the aspiration syndrome is crucial following a well-directed history.[4,5,8] Imaging can assist but is not always conclusive. It can also reveal indirect signs of foreign body presence or complications.[1] The aspiration syndrome reported by the parents led us to suspect a laryngo-tracheal foreign body.

Endoscopy confirms the presence of the foreign body and allows for its extraction.[9] Indeed, in the face of stage IV laryngeal dyspnea, emergency tracheostomy is necessary. This procedure creates a high tracheal opening, allowing for the insertion of an endoscope to visualize the foreign body and extract it using micro forceps.[3] In our case, we identified and removed a subglottic foreign body resembling a fishbone.

The morbidity and mortality associated with subglottic foreign bodies are significant, approximately 4 to 7%.[3,6] Therefore, early management through multidisciplinary collaboration is essential. Prevention is key.[10]

CONCLUSION

Subglottic foreign bodies are rare and can pose a life-threatening risk. The therapeutic approach depends on the severity of the laryngeal dyspnea. Emergency tracheostomy is performed as a primary intervention in cases of severe laryngeal dyspnea. We outline the case of a child who suffered from a subglottic foreign body in our context and emphasize to our colleagues the severity of subglottic foreign bodies. Prevention is the best therapeutic alternative.

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