INTRODUCTION

Foreign body aspiration is a life-threatening event in children that requires early diagnosis and quick decision making to avoid significant morbidity or even mortality. Diagnosis of this condition demands a high degree of suspicion since physical examination and basic radiology exams can sometimes be misleading. The deaths are mainly associated with asphyxia caused by foreign bodies in the glottic area, with a mortality rate greater than 40% (1).

Here we report an infant who had initially presented one month earlier in the emergency room for difficulty breathing. Chest X-ray was performed and was negative, and the patient was misdiagnosed as having asthma. Only after repeat imaging that included his neck was the safety pin visualized. The anesthetic management of foreign body aspiration located in the glottis will be discussed.

CASE REPORT

A 12 month old male weighing 9.6 kg with no significant past medical history presented after ingestion of a safety pin. The patient already had a peripheral 24 gauge intravenous line in his right hand, and IV induction was initiated with dexmetotomodine at 0.05 mcg/kg/hr and remifentanil at 0.05 mcg/kg/min. After 15 minutes, the dexmetotomodine infusion was reduced to 0.03 mcg/kg/hr. Inhalational agent with sevoflurane via mask was also used to further deepen the patient before ENT manipulated the airway. Dexamethasone was administered to mitigate airway edema. After direct laryngoscopy was performed by ENT with a rigid bronchoscope, an open safety pin was noted to be lodged in the glottic opening.

The surgery team made repeated attempts to remove the safety pin but manipulation of the foreign body caused acute desaturations that became more severe and difficult to alleviate with positive pressure ventilation.

Discussion between the surgery team and anesthesiology ensued and a decision was made to secure the airway via a tracheostomy which occurred without incident. Afterwards, the safety pin was able to be removed using a rigid bronchoscope via the mouth. The patient was then intubated with a 4.5 cuffed ETT under direct visualization by ENT, and the tracheostomy was closed. The patient was transferred to the PICU without incident.

DISCUSSION

Our goal was to have the patient spontaneously ventilate as we did not initially have a secure airway. As ENT continued to be unsuccessful in their attempts to remove the safety pin, the patient required increasing amounts of positive pressure ventilation. There were concerns that with continued positive pressure, the foreign body could be forced further distally into the trachea and cause complete airway obstruction. After a quick discussion, a joint decision was made to proceed with a tracheostomy to secure the airway distal to the foreign body.

CONCLUSION

The patient was extubated two days after his procedure and had a repeat laryngoscopy two weeks afterwards, which showed healing of granulation tissue in the posterior commissure region. He is currently doing well.

Successful management of foreign bodies in pediatric patients can be provided with adequate preparation and open communication between surgery and anesthesiology.

Reference: