



Case Report:

Removal of Open Safety Pin in Larynx: A Challenging Event for an Otolaryngologist

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Abstract: Inhalation of foreign body is a serious event. The numbers of foreign bodies that become impacted in the larynx are small and require urgent recognition. We describe the case of a 12 year old girl with an impacted open safety pin in the larynx. The sharp end of the safety pin was upward, below the level of the vocal cords and had pierced the soft tissue. Tracheostomy was required to secure the airway and the child had an uneventful recovery. We discuss the management and describe our method of removal of the foreign body with a brief review of literature.

Key Words: Open safety pin; Larynx

Case Report:

This 12 years old girl had presented with pain during swallowing and speaking after holding a safety pin in mouth while dressing up for a function and accidentally swallowing it. On examination, the patient was sitting comfortably, there were no symptoms of respiratory obstruction, however patient had hoarseness of voice. She was of average height and thin built. All vital parameters were within normal limits. X-ray soft tissue neck revealed a radio opaque shadow of a safety pin in the airway at glottic level (Fig 1). The safety pin was open, pointing upward and the pointed end seemed to be below the level of the vocal cord. The sharp end seems to have pierced the soft tissue of the sub glottic region and the Clasp was lying opposite to the epiglottis abutting the base of the laryngeal surface.

Flexible nasopharyngoscopy revealed the clasp opposite the epiglottis (Fig 2). The sharp end was not visible as it had pierced the LT vocal cord and arytenoids posteriorly. The glottic chink was patent. Both the vocal cord movement were normal. Both the pyriform fossa was also normal. Endoscopic removal of the foreign body under general anesthesia was decided. To secure the airway, tracheostomy was done, using No 6 portex cuffed tube. Under general anaesthesia direct rigid endoscopy was performed to visualize the larynx. The clasp was visible opposite the

epiglottis which was grasped with cup forceps and was disengaged distally; the safety pin was rotated so that the sharp end was upside down to prevent further injury to the vocal cords while removing. Immediate post operative period was uneventful. Flexible endoscopy was done two days later and it showed normal vocal cords (Fig 3). The patient was decannulated two days postoperative. One month later the patient was asymptomatic and was carrying out all her work normally.



Figure 1: X-ray soft tissue neck showing the radio opaque shadow of the safety pin at glottic level



Figure 2: Flexible nasopharyngoscopy showing the clasp opposite the epiglottis



Figure 3: Flexible endoscopy two days after removal showing normal vocal cords.

Discussion

Safety pin accounts for less than 3% of all the foreign bodies found in the tracheobronchial tree [1], and 1.5% of those found in the oesophagus.[2] An open safety pin lodged point up presents an entirely different and a difficult problem. If traction is made without closing the pin or protecting the point, severe and probably fatal trauma will be produced. The pin may be closed with a pin closer; Arrowsmith's pin-closer being excellent. G Hudson Makuen had encountered such case in a 13 years old girl and had used a special instrument devised originally by Dr Algemon Coolidge which had two parts Pin pusher and ring instruments to push and close the instruments[3]; tracheostomy was not required in the procedure. SSM Hussain had encountered such case in six month old baby; tracheostomy was not required in this case.[4] Tan SS et al had reported an open safety pin removal from larynx in a 16 years old boy removed through a

tracheostomy using high frequency jet ventilation to maintain gaseous exchange.[5] Gandhi BS et al had reported that preoperative tracheostomy can be attempted to secure a patients airway before resorting to removal of foreign body lodged in the larynx.[6]

Conclusion

Aspiration of foreign body is a preventable mishap. It can be prevented by imparting proper education to the parents and public at large. They should be told about the dangers of these accidents and eventualities. Education of medical fraternity for not meddling with the things for which one does not have expertise and facilities is also important.

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