

Retention of Radiotranslucent Foreign Bodies in the Oesophagus as a Cause of Stridor

W. S. WINSHIP, P. D. LE ROUX, B. T. LE ROUX

SUMMARY

Two infants who presented with stridor were found to have radiotranslucent plastic objects impacted in the oesophagus at the level of the cricoid cartilage.

From these 2 cases the lessons to be learnt are that oesophageal foreign bodies retained for even a short period may be a cause of stridor and that when these foreign bodies are not radiographically visible investigation must include the swallowing of contrast medium in which the foreign body should be visible as a translucency.

S. Afr. Med. J., 48, 831 (1974).

Infants instinctively put objects into their mouths. Most inedible materials are rejected but occasionally solid objects are swallowed or inhaled, usually in relation to efforts of elders at extraction of the foreign material from the mouth of the infant. Inhaled foreign bodies nearly always cause respiratory symptoms. Many small objects which are swallowed pass through the proximal part of the alimentary tract without symptoms, but some may lodge in the oesophagus at one of its narrower points,¹ often at the level of the cricoid cartilage. Those foreign bodies retained in the oesophagus that are radio-opaque are easily localised radiographically. The many small radiotranslucent plastic objects which abound in most households constitute a greater risk to the child.

The purpose of this article is to relate briefly the presentation and investigation of 2 infants with increasing stridor—the consequence of impaction of small plastic foreign bodies in the oesophagus.

CASE REPORTS

Case 1

Six weeks before admission to hospital a girl, 18 months old, was seen by her parents to have an unidentified object in her mouth. When an attempt was made to remove this, the child gagged and the foreign object was

Department of Paediatrics, Addington Hospital, Durban
W. S. WINSHIP, M.B. CH.B., M. MED. (PAED.)

Department of Radiology, Addington and Wentworth Hospitals, Durban
P. D. LE ROUX, M.B. CH.B., D.M.R.D.

Department of Thoracic Surgery, Wentworth Hospital, Durban
B. T. LE ROUX, CH.M., F.R.C.S.

Date received: 25 October 1973.

not found. A doctor who examined the child shortly after the episode did not find any abnormality. Over the next days the parents noticed that the child was intermittently reluctant to take solid feeds and appeared to have difficulty in swallowing these. Three weeks after the initial episode the child developed stridor, at first intermittent, but with each episode becoming progressively more severe, and ultimately almost continuous.

A postero-anterior chest radiograph showed the upper mediastinum to be a little broad. A lateral radiograph of the neck showed only anterior displacement of the trachea. At bronchoscopy the forward bowing of the trachea was confirmed and a tracheogram recorded this. An aortogram, made to exclude a vascular ring, was normal. The child was encouraged to swallow barium and the barium-filled oesophagus looked normal on anteroposterior views. A lateral view showed a persistent translucent area in the column of barium at the cricopharyngeus level (Fig. 1). At oesophagoscopy a plastic coin (Fig. 2) was removed without difficulty. The stridor disappeared by the following day, and with the exhibition of an antibiotic for a short period, in the management of what was presumed to be peri-oesophagitis, the radiographic appearances quickly became normal.

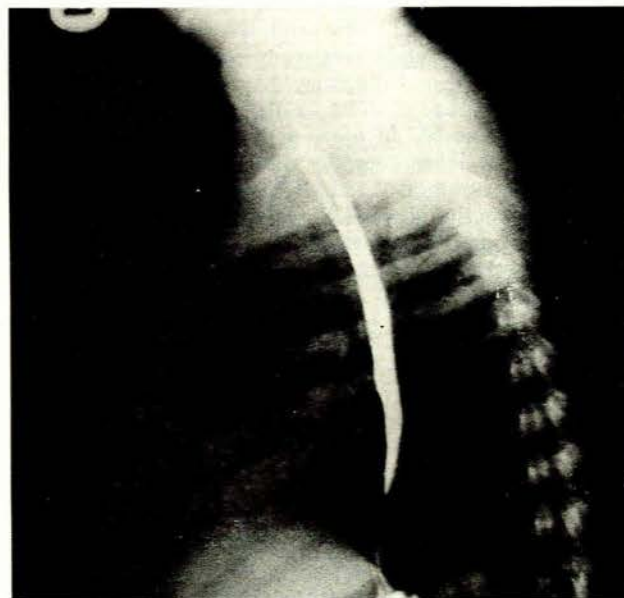


Fig. 1. Case 1. Lateral radiograph showing a linear translucency in the barium-filled oesophagus at the level of the cricopharyngeus.



Fig. 2. Right: the plastic coin, inscribed 'Candy Cash', measuring 1,5 cm in diameter removed from case 1. Left: the plastic cuff stud, measuring 1,5 cm \times 1 cm \times 1 cm removed from case 2.

Case 2

A male child, 14 months old, had what was presumed to be an upper respiratory tract infection for several days before admission to hospital. The mother said that the child had been coughing. On the evening before admission the mother had found the child with a foreign object in his mouth and in an attempt to extract this the child had gagged and swallowed it. A few hours later the mother noticed that the child was wheezing. On admission to hospital, stridor was not recognised but the child was tachypnoeic and feverish. The pharynx was red but there were no other signs of respiratory disease. Chest radiography and fluoroscopy were normal. Laryngoscopy showed some redness of the trachea and larynx; a foreign body was not seen. The child was regarded as having laryngo-tracheobronchitis, and the story of inhalation of a foreign body was discounted. The child was treated with an antibiotic and nursed in a steam tent.

Twenty-four hours later the child was clearly stridulous and stridor was ingravescent. A further 24 hours later the child was greatly distressed, with marked indrawing of ribs and sternum on inspiration. Tracheostomy was undertaken and there was immediate relief of respiratory obstruction. On further examination of the larynx only

redness of the trachea and larynx was noted. Oesophagoscopy was undertaken and a plastic cuff stud (Fig. 2) was found impacted at the level of the cricoid cartilage. This was removed and recovery was uneventful.

DISCUSSION

The common causes of stridor in infancy are infections of the epiglottis, trachea and larynx; but the inhalation of a foreign body is not uncommon and must always be suspected if there is a history which in any way points to this likelihood.

It is less well known, perhaps, that a foreign body impacted in the oesophagus may be a cause of severe stridor. Radio-opaque foreign bodies are usually quickly recognised on radiographic examination and removed before peri-oesophagitis complicates their presence and causes stridor. Plastic foreign bodies are usually not recognisable on routine plain films and may cause partial oesophageal obstruction for many weeks before the consequent peri-oesophagitis extends to involve the trachea, with the production of stridor as a result of displacement and a diminished lumen.

Foreign bodies retained in the oesophagus for a long time are inevitably associated with peri-oesophagitis² and may be associated with perforation of the oesophagus and a mediastinal abscess. The wall of such an abscess may include a major vessel and presentation may therefore be with a haematemesis,³ which is sometimes fatal.

Dysphagia and excessive salivation are clinical features associated with retention of foreign bodies in the oesophagus, and the swallowing of a radiographic contrast medium will usually reveal the presence of a plastic foreign body as a translucency within the column of contrast medium. The oesophagus must be viewed in more than one plane to detect flat foreign bodies such as coins, since the contrast may flow past on either side of a flat object in one view, making it unrecognisable as a translucency.

That the manufacturers of sweets should include small plastic objects such as 'Candy Cash' in the packets is deplorable.

REFERENCES

1. Davies, D. V. (1967): *Gray's Anatomy*, 34th ed., pp. 1442-3. London: Longmans Green.
2. Turner, G. G. (1964): *Injuries and Diseases of the Oesophagus*, pp. 31 and 35. London: Cassell.
3. Le Roux, B. T. (1964): *Thorax*, 19, 203.