Answer and Discussion

The double edge on the AP radiograph and step visible on the lateral film should be considered pathognomonic of button battery ingestion.\(^1\)

The foreign body was initially mistaken for a coin and the child was admitted for observation and consideration of endoscopy first thing in the morning. On evaluation by more senior clinicians in the morning, ingestion of a button battery was immediately suspected and arrangements for its retrieval were expedited.

A button battery was visualised by direct oesophagoscopy in the mid-oesophagus with mucosal ulceration, granulation and stricture. No perforation was visible, but extraction was difficult. A nasogastric tube was placed and the child made an uneventful recovery. A barium swallow on day 2 post-op showed no leak and no evidence of residual stricture or mucosal abnormality.

Button batteries are not uncommon among ingested foreign bodies in the paediatric age group and can have serious consequences if not retrieved in a timely fashion. There is extensive previous experience in this department with nasal insertion of button batteries.\(^2\) In other centres, significant complications of oral ingestion have been reported, including aorto-oesophageal fistula,\(^3\) oesophageal perforation\(^4\) and vocal cord paralysis.\(^1\)

The moist membranes of the mucosa predispose to the completion of a circuit between anode and cathode and erosion of the casing resulting in leakage of battery contents, both of which cause significant trauma by way of electrical, thermal and chemical burns.

The damage can occur rapidly, as quickly as 90 minutes.\(^2\) The size of the battery is likely to play a role in itself, regardless of its dangerous properties any object lodged in the oesophagus has the potential to cause pressure necrosis.

Conclusion

The appearances of the item on plain films (Figure 1) are pathognomonic of button battery ingestion. This and the unknown time of its ingestion should have led to immediate referral for emergency endoscopy overnight.

Those seeing such radiographs (e.g. ED doctors, on-call junior staff) should be vigilant of the appearances and be aware of the potentially significant consequences of delaying removal.

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<th>Learning points:</th>
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<td>1. Button battery ingestion must be included in the list of differentials in foreign body ingestion by children</td>
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<td>2. On an erect chest film, the double edge in AP view and step in lateral view (if taken) should be recognised as being pathognomonic of button battery ingestion requiring urgent retrieval</td>
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References:


