CASE REPORT

A migratory shark bone

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Accepted 6 June 2018

SUMMARY

Fish bone ingestion is a common presentation in ENT. If not managed correctly, it can cause serious complications for the patient and dilemmas for the clinician. A 49-year-old Sri Lankan woman presented to the emergency department following shark bone ingestion with a 'pricking' sensation in her throat. After initial investigation, the bone migrated through to the sternocleidomastoid muscle. After surgical removal of the shark bone she went on to develop a large neck collection, which required surgical drainage. The careful attention to the patient's history and use of imaging facilitated treatment in this case of fish bone ingestion and management of the sequelae.

BACKGROUND

The authors felt this case was a relevant clinical lesson in management of fish bone ingestion. It highlights the importance of taking careful note of the patient's symptoms and is an example of how complications can occur from this common presentation. It also highlights the importance of the use of further imaging, beyond the initial neck X-rays that are routinely done. CT scanning should be considered in patients with ongoing symptoms.

CASE PRESENTATION

A 49-year-old Sri Lankan woman presented to the emergency department following shark bone ingestion with a 'pricking' sensation in her throat. She had no medical history, took no regular medications and had no allergies.

Figure 1 Lateral soft tissue neck demonstrating the shark bone.

Figure 2 CT scan demonstrating the shark bone.

INVESTIGATIONS

Flexible nasendoscopy was normal on admission in the early hours. Lateral soft tissue neck showed a foreign body visible at the level of the low cervical spine (figure 1). Oesophagoscopy later that day was unsuccessful but minor mucosal bleeding was noted. The patient was kept nil by mouth and the X-ray repeated; this showed gross prevertebral soft tissue swelling and a small linear radiopacity measuring 3 mm in length was seen posterior to the thyroid cartilage. CT neck was performed the following day and showed a radiopaque foreign body in an oblique orientation in the left side of the neck, outside of the pharyngeal and oesophageal cavity and at the C6 level and in close proximity to the deep vascular neck bundle (figure 2). Intravenous co-amoxiclav was commenced the following day and continued for 5 days. She was commenced on nasogastric (NG) feeding. The patient was then taken for surgical exploration of the neck and washout; the bone was identified pointing anteriorly through sternocleidomastoid muscle and with a small amount of pus. The bone was removed (figure 3). The patient was instructed to drink plain water and then commenced on a soft diet 24 hours later. The NG tube removed and she was discharged 24 hours postoperatively with a 7-day course of co-amoxiclav.

Five days later, she was readmitted with fever and difficulty eating. Examination findings included tenderness and erythema over the surgical neck wound. Intravenous antibiotics, co-amoxiclav and metronidazole were commenced and continued for 10 days throughout admission. Repeat CT scan

To cite: Mathew E, Myuran T, Ching H-Y. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-220066

Figure 3 Shark bone removed from the patient's neck.

of the neck showed a complex large collection (50×32 mm) beginning at the left base of the neck at approximately level intravenously lateral to the oesophagus and extending up to levels III and II as well as though the sternocleidomastoid muscle itself (figure 4). No residual fish bone was seen.

Two days later, she attended theatre for NG intubation and drainage of the complex neck collections. The intraoperative findings included pus moving freely into throat at very upper end oesophagus. The procedure involved an incision extended medially, exposure of the sternocleidomastoid and division of the strap muscles and anterior jugular vein. Blunt dissection was performed into the collections in sternocleidomastoid and these were tracking anterior to sternocleidomastoid up to oesophagus. Pus was sent to microbiology. Two corrugated drains were

Figure 4 CT scan showing neck collection.

inserted into each cavity. Microbiology cultures showed a light growth of streptococcus intermedius, sensitive to doxycycline, vancomycin and penicillin. Water-soluble contrast swallow 4 days later showed free flow down the oesophagus with no leak. There was pooling of barium in the left piriform fossa but no evidence of a leak or fistula. She was discharged 3 days later with oral antibiotics; 7 days of co-amoxiclav and 7 days of metronidazole.

TREATMENT

See above.

OUTCOME AND FOLLOW-UP

Outpatient follow-up 4 weeks later was unremarkable.

DISCUSSION

Accidental fish bone ingestion is a common presentation to ENT. Common sites of ingestion include the level of the palatine tonsil, base of tongue, vallecula and piriform fossa.¹

In straightforward cases, fish bones pass through the gastrointestinal tract without complications. However, fish bones have been known to migrate in the neck. There have been reports of migration into the paraglottic space.² It has also been known to move further into the gastrointestinal tract causing complications such as appendicitis,³ as well as extraluminal migration leading to cause liver abscesses⁴ and splenic rupture.⁵ Other complications include recurrent deep neck infection for 2 years, penetration of the facial artery, haematoma of the floor of the mouth and a retropharyngeal abscess.⁶ Neck abscess has been reported following self-extrusion of a fish bone.⁷ Neck space infection has also been reported following migration but no significant sequelae occurred once the fish bone had been removed surgically.⁸ It is debatable whether any alternative antibiotics would have changed the prognosis in this case however ultimately sensitivities showed that appropriate antibiotics had been selected. One could argue, the patient should have been nil-by-mouth and fed via nasogastric tube for 7 days. However, any tear would have been a small linear tear and contrast swallow may not necessarily have revealed it.

Choice of imaging in these patients is also important with regards to management. Apart from an obvious linear opacity on imaging, it is important that the clinician looks for signs of perforation such as soft tissue gas or air in the upper oesophagus as well as any paravertebral soft tissue swelling.⁹ This case demonstrates the effective use of CT scanning in patients with continuing symptoms following fish bone ingestion. Other imaging modalities for foreign body ingestion include plain radiography and sonography. These offer less radiation than CT. Radiography is an accessible service and lateral and anteroposterior views are useful when a radiopaque foreign

Learning points

- ▶ Keep in mind the possibility of tissue perforation and migration of bone into soft tissues.
- ▶ History of persistent symptoms and clinical examination findings should raise clinical suspicion.
- ▶ Perform CT scan in view of ongoing symptoms.
- ▶ Give careful discharge advice to patients presenting with bone ingestion and unsuccessful removal, that is, seek medical help if they encounter chest pain, temperatures, vomiting, difficulty swallowing, haematemesis or melaena.

body cannot be located on oropharyngeal examination or flexible nasendoscopy.¹⁰ Sonography has been reported for use in paediatric cases for localisation of gastrointestinal foreign bodies.¹¹ CT however is a useful and arguably superior tool, not only for identification of ingested fish bones^{12 13} but also for assessment of any complications from ingestion, as demonstrated in this case study. It has been shown to be particularly useful for foreign bodies lodged in the cricopharynx.¹⁴ It also helps establish anatomical relation to other key structures, which is of vital importance to the surgeon when considering an external approach to the neck.

Contributors EM: reporting of the case and literature review. TM: conception and design, acquisition of patient data and images. H-YC: supervision of case and write up; acquisition of images.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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