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Fish bones in the throat

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SUMMARY

Patients presenting with sharp pain in their throat after eating fish were studied to determine the site and frequency of impacted fish bones. In 79% no fish bone was demonstrated despite careful follow up. In those proven to have a fish bone 93% were in the oropharynx. The role of X-rays and the indications for referral for endoscopy are discussed.

INTRODUCTION

Persistent sharp pain in the throat following eating fish is felt by the patient to indicate that a fish bone has stuck. Often no fish bone is found and the symptoms resolve spontaneously. However, it is well recognized that if a fish bone does stick, and is not found, serious septic complications may occur, occasionally leading to death.

Recently, Kirkam & English (1984) described two patients dying from fish bones lodging, one in the pyriform fossa and another across the hypopharynx. In both cases lateral neck X-rays had been relied on to exclude the presence of a fish bone. Radiology by itself cannot be definitive even with perfectly aligned and exactly penetrated films.

Carr (1987) has shown that commonly eaten fish in the UK such as mackerel, trout, salmon, salmon trout, herring and skate, have poorly radio-opaque bones and are therefore likely not to be seen on X-ray.

The most definitive investigation for foreign bodies in the throat is rigid endoscopy although, even this is not foolproof. In a series of 56 oesophagoscopies for suspected fish bones, Bachman (1981) reports 16 in which no fish bone was found. Two had had fish bones seen on X-ray and a further five had X-ray findings suggestive of a foreign body.

It is with these considerations that we have looked at the following questions; when a fish bone sticks in the throat where is it likely to have stuck and do all possible fish bone in throat patients need to be referred for endoscopy to avoid death and morbidity?

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METHODS AND MATERIALS

Patients presenting with a sharp pain in their throat after recent ingestion of fish were studied. All patients presented within a one-year-period to the accident and emergency department. Patients who had total dysphagia were referred immediately for endoscopy. The 71 remaining patients were included in the trial. All underwent direct examination of the oral cavity and oropharynx and a mirror examination of the pharynx and larynx. The neck was examined for tenderness, masses and surgical emphysema. If a fish bone was seen on examination it was removed under local anaethesia. A soft tissue lateral X-ray of the neck was performed in the remaining patients. If a bone was seen on X-ray then the patient was referred. Patients with negative clinical examination, i.e. no bones or scratches seen, and negative X-rays were reassured and asked to attend the ENT department in 48 h if their symptoms persisted. If results of clinical examination remained negative they were re-examined in two weeks; at this stage rigid endoscopy was performed for those patients who had persistent symptoms.

RESULTS

Fish bones were found in 15 of the 71 patients presenting (21%). The sites at which fish bones were found are listed in Table 1. Fourteen fish bones (93%) were visible at initial examination; these were all in the oropharynx or hypopharynx and were removed, some requiring local anaesthetic (xylocaine spray).

One patient was referred for endoscopy to remove from the upper oesophagus a fish bone whose presence was indicated by indirect evidence from a lateral neck X-ray. Four of the patients referred to the ENT department had presisting symptoms at 2 weeks and underwent endoscopy; no foreign bodies were found. Two of these patients still had symptoms at 3 months even after negative endoscopy and positive reassurance. One has had xerography, barium studies, and a further endoscopy without a positive finding. The other patient has agreed to live with her symptoms and was not followed beyond 3 months. The two others did not attend for follow-up after endoscopy. In the remaining patients symptoms settled without serious complications.

Table 1 Sites at which fish bones were found

Site	*n*	Number visible on X-ray
Base of tongue	8	3
Tonsil	3	0
Posterior pharyngeal wall	2	1
Aryepiglottic fold	1	0
Upper oesophagus	1	1 (indirectly inferred)

Table 2 Fate of patients in study

	n	Number of bones removed
Patients presenting	71	15
Fish bones seen at initial presentation	15	15
Patients still symptomatic at 48 h	15	0
Patients still symptomatic at 2 weeks	4	0

DISCUSSION

In the majority of patients presenting (79%), no fish bone could be demonstrated and their symptoms settled. In 73% of these patients this had occurred by 48 h. It is likely that their symptoms were due either to minor abrasions to the mucosa which healed rapidly and spontaneously or possibly an undetected fish bone passing on without harm.

An impacted fish bone was found in 21% of those presenting. In 93%this was in the oropharynx. The commonest site for a fish bone to impact was the base of tongue (53%) followed by the region of the tonsil (20%). Both sites are readily seen on examination including examination with a laryngeal mirror. Care needs to be taken as saliva strands may obscure or mimic fish bones. A lateral neck X-ray may be of use if no fish bone is evident after initial examination of the pharynx. In this study one bone (6·6%) was found in the region of cricopharyngeus at endoscopy. This was indicated by indirect X-ray findings: prevertebral soft tissue swelling in excess of the diameter of the adjacent vertebral body, soft tissue gas or air in the upper oesophagus. It must be remembered that after fish bone impaction soft tissue swelling takes 3–12 h to become apparent and may not be seen if the patient is X-rayed early (Bachman 1984). It is important that a lateral neck X-ray includes at least the sixth cervical vertebra and therefore the region of cricopharyngeus, as this is the commonest site for oesophageal foreign bodies to impact (Jackson, 1936). The upper oesophagus is also the most frequently perforated region of the gastro-intestinal tract by foreign bodies (Nandi & Ong, 1987). A better radiographic view of the upper oesophagus may be obtained by asking the patient to sing the letter 'E'. This raises the larynx and brings more of the upper oesophagus into view above the clavicle. Xerograms (Bowers & Lynch, 1977) and computerized tomography (Kuhns *et al.*, 1977) and barium studies have been reported to be useful. A lateral neck X-ray is usually more easily available and remains the commonest radiographic aid. Chevalier Jackson in 1936 summarized the main factors in overlooking the diagnosis of ingested or aspirated foreign bodies: failure to consider the possibility, failure to elicit the history, absence of history, scepticism as to the possibility of a foreign body, apathetic attitude of clinicians, symptomless interval, multiplicity of foreign bodies, awaiting spontaneous expulsion, symptoms explained by other medical conditions and the character of the foreign body. All of these are applicable to fish bones in the throat today.

CONCLUSION

It is of clinical use to know that fish bones can be found in approximately 21% of those

patients presenting, and in 93% they are in the oropharynx. These should be visible by careful inspection. If a careful examination has been possible and no fish bone is evident, then lateral neck X-rays of suitable quality are required. Otherwise, significant fish bones in the upper oesophagus and pyriform fossa may be missed. If initial examination and X-rays are normal and the patients symptoms are not overwhelming, it is reasonable to review these patients to see if their symptoms settle. Immediate referral for endoscopy is not mandatory.

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