

**Case report**

**Spontaneous extrusion of migrated fish bone in the neck  
after 48 hours of ingestion**

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**Abstract**

Foreign body in the neck usually will present with acute symptom of odynophagia or dysphagia. Migration of these foreign bodies to the adjacent structures or to the external skin may occur as late complication especially if the initial workup missed to detect their presence. Mostly the migrated foreign bodies were the fish bone as it has sharp ends. Depending on the tract that it made, serious complications may occur. We present a case of migrating fish bone in the neck with spontaneous extrusion without any complication. The foreign body was ingested not more than 48 hours before the extrusion.

**Key words:** Fish bone migratory, neck, spontaneous, extrusion.

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**Introduction**

Cases of ingested fish bone are common in otorhinolaryngology practice. Patient usually came with complaints of sharp pain in the throat and odynophagia. The aim of management is to remove the foreign body safely. Depending on the location of the bone, most of them can be done in the clinic set up. However, it can become more complicated once migration occurs. Few cases of migratory fish bone in the neck with complications such as deep neck abscess, febrile lymphadenopathy and neck lump were reported.<sup>1, 2</sup> In very rare circumstances, the migrated fish bone in the neck can extruded safely and spontaneously.

Physical examination revealed minimal tenderness on the left upper part of the neck. There was a small pin point opening on the neck skin. There were no signs of inflammation, swelling or abscess formation around that area. Oropharynx and oral cavity examinations revealed no abnormality. Laryngoscopy showed normal structure of laryngeal inlet and hypopharynx. Anteroposterior cervical neck X-ray showed a 4 cm long opaque foreign body on the left side of the neck. It was located at the level of C4 (Figure 1).

**Case Summary**

A 58 year old female presented with two days history of pain on the left side of the neck. It was associated with sore throat. There was no odynophagia, dysphagia, fever, chronic cough, shortness of breath, stridor or hoarseness of voice. She admitted that she had accidentally ingested a fish bone on the day before but did not seek any treatment.

The patient was admitted and started on intravenous antibiotic. Computed tomography (CT) scan of the neck was arranged before proceeding with neck exploration under general anesthesia. Patient was nursed with close monitoring in view of possibility of dangerous complication. On the next day, while waiting for CT scan, the foreign body was spontaneously extruded from the neck (Figure 2). There was no bleeding. The patient recovered well with no complications after two days of close monitoring. She was discharged with oral antibiotic.

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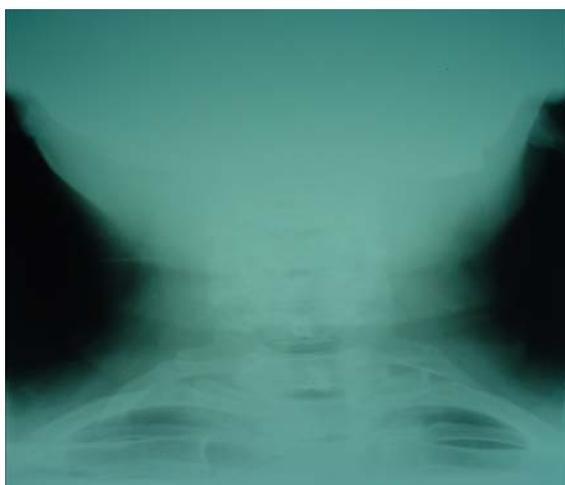
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## **Discussion**

Accidental ingestion of fish bone is common in otolaryngological discipline. It occurs frequently in Asian populations,<sup>3</sup> where fish is one of the main sources of protein. Usually small fish bones can spontaneously pass through the aerodigestive tract. Impaction at the oropharynx and hypopharynx area especially base of tongue, valleculae and tonsils do occur. Majority of them can be removed easily in the clinic with or without local anesthesia without any serious complication or morbidity.



**Figure 1:** PA view of neck X-ray shows migrated fish bone on the left side at the level of C4 vertebrae

The usual of fish bone impaction in the neck includes throat discomfort, neck pain and fever.<sup>3</sup> There were also reported that the foreign bodies presented as neck lumps and discharging sinus.<sup>4</sup>

However, if the bones retained in the aerodigestive tract ie embedded in the soft tissue structures especially oesophagus, it has the potential effect to cause serious complications such as perforation of the esophagus, deep neck abscess, penetration to the major blood vessel and mediastinitis.<sup>1,2</sup> Rarely, the impacted bone will migrate extraluminally into the soft tissues of the neck and emerge on the skin. Remson et al in 1983 reported that out of 321 cases of penetrating oesophageal foreign bodies, 43 of them migrated extraluminal.<sup>5</sup>

There were few rare final destinations of the migrated fish bone, for example in the thyroid gland. Yu-Hsing Lin et al reported one patient presented with pointed fish bone located in the medial part of the left thyroid gland near the tracheal wall, with surrounding abscess formation in the thyroid<sup>6</sup>. It may be due to the fact that each thyroid lobe is attached to the trachea by a dense consolidation of connective tissue, called Berry's ligament.<sup>6</sup>



**Figure 2:** Self extruded fish bone from the neck

The mechanism of migration is thought to be due to movement of neck muscle and viscera during voluntary or involuntary movement of the head and neck structures. Large foreign bodies such as fish bones, pins or wires are assisted in their migration by contraction of neck muscle especially the cricopharyngeus muscle during swallowing.<sup>7</sup> The shapes of the foreign bodies also contribute to the rate of migration, as in the pointed fish bone with a straight shape in this case. Sometimes, small foreign bodies such as particles can migrate to lymphatic drainage system or as a result of macrophage phagocytosis.<sup>8</sup> Lorenzo et al reported there was a case of young girl with recurrent fever and painful right laterocervical lymph nodes. Biopsy found that unexpected vegetables thin fibres in a lymph nodes.<sup>1</sup>

In this case, the patient had one day history of an ingested fish bone with symptoms of sore

throat and ipsilateral neck pain; however she did not seek any treatment on that time. Examination on the next day revealed fish bone seen to be protruding out at the left lateral neck. Neck radiograph clearly demonstrated a 4 cm fish bone at the left side of the neck. She was planned for CT scan of the neck on the next day. However, it was cancelled in view of the fish bone was spontaneously extruded and no complication occur.

Plain lateral neck radiograph has a role in detecting foreign body in the neck although the sensitivity and specificity varies. Lue AJ et al reported a sensitivity and specificity of 39% and 72% respectively for the plain radiographs to detect the presence of fish bones.<sup>9</sup> Undoubtedly CT scan of the neck and cervical ultrasonography are considered the best diagnostic tools in this type of case. CT scan can offers better detection of thin, small and minimally calcified foreign bodies which is impossible to be identified by plain x-ray.<sup>9</sup> It is also has a role in preoperative investigation and provides the surgeon with accurate size, type, orientation of foreign body and its

relationship to other vital structures in the neck such as hyoid bone, thyroid cartilage, cricoid bone, carotid artery and internal jugular vein. This information is very crucial especially when a neck exploration is planned.

This case also showed that was a rapid movement of fish bone from the onset of patient's complaint till the time of excretion which was estimated about 72 hours. Usually, in similar case, it takes several weeks to months for a migratory foreign body to produce a symptom. The body tends to excrete any foreign body naturally as a migratory mechanism. Chee LW and Sethi DS reported about 24 cases of migrating foreign bodies in the aerodigestive tract in 1999. They concluded that horizontal orientation of the fish bones means that they are more likely to migrate extraluminally to the path of least resistance.<sup>3</sup> We believed that in this particular case the orientation has contributed to the rapid migration. The other factor that contributed to rapid migration was the sharpness and straight shape of fish bone as in this presented case.<sup>10</sup>

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