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Case report

Novel application of a rigid curved larygno-pharyngoscope for examination and treatment of hypopharyngeal lesions

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ABSTRACT

In endoscopic laryngo-pharyngeal surgery (ELPS), a rigid curved laryngo-pharyngoscope, which was invented by Dr. Sato et al., is necessary to obtain excellent surgical view of both hypopharynx and even the entrance of the esophagus. We have used this instrument for the examination and treatment of several diseases other than cancer located in the hypopharynx, such as difficult-to-find buried fish bones, retropharyngeal abscess, and congenital pyriform sinus fistula. In the result, we could acquire better view of hypopharynx and completed the intended procedure safely, especially for uncovering difficult-to-find fish bone buried in the mucosa. Even in the cases hardly to operate under this instrument, just use for detailed observation of the lesion was available. A rigid curved laryngo-pharyngoscope provides a wide and clear view of a challenging space, the hypopharynx. We recommend using this technique in cases such as difficult-to-find buried fish bones or retropharyngeal abscesses while avoiding a neck incision.

1. Introduction

Transoral surgery has recently become a major strategy for the treatment of laryngo-pharyngeal cancer as a less invasive therapy. Among several types of transoral surgery, endoscopic laryngo-pharyngeal surgery (ELPS) has been reported in Japan since 2006 [1]. In ELPS, a rigid curved laryngo-pharyngoscope (Nagashima Medical Instruments Company, Ltd., Tokyo, Japan) (Fig. 1A), which was invented by Satou et al. [1], is inserted orally to provide a wide surgical view of the whole hypopharynx with a magnifying endoscope. This instrument can elevate the larynx anteriorly so strongly that an excellent surgical view including the apex of the pyriform sinus, post cricoid region, posterior wall, and even the entrance of the esophagus is obtained. Developing the above-mentioned concept, we have considered applying it for the examination and treatment of diseases other than cancer located in the hypopharynx.

2. Case report

2.1. Case 1

A 61-year-old man complained of a pricking sensation immediately after eating grilled flatfish, and a gastroenterologist in the regional hospital tried to remove it by upper gastrointestinal endoscopy, but in vain. When he was referred to our hospital, computed tomography (CT) showed a probable fish bone impacted in the posterior wall of the hypopharynx (Fig. 1B). Although the gastroenterologist in our hospital also attempted to search for it by upper gastrointestinal endoscopy, it could not be identified. Extraction of the fish bone by direct esophagoscopy under general anesthesia was then planned.

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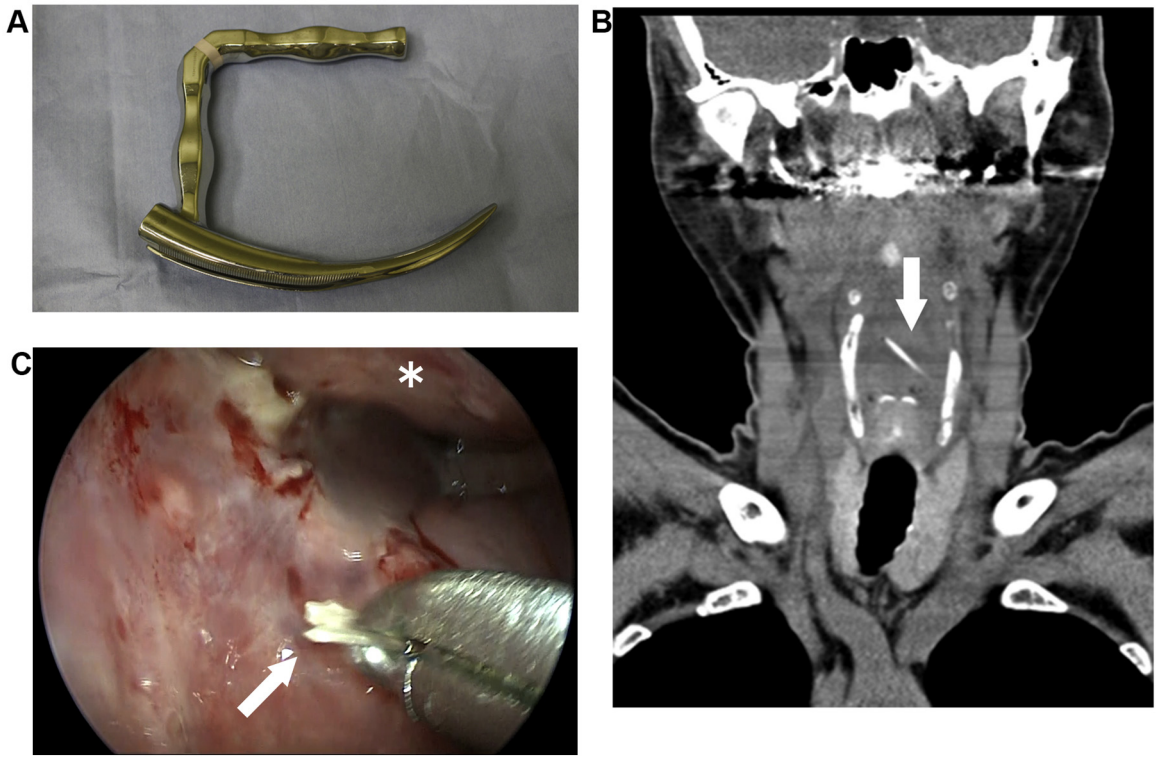

Fig. 1. (A) Rigid curved laryngo-pharyngoscope. (B) Coronal CT shows the fish bone obliquely in the posterior wall of the hypopharynx (arrow). (C) Intraoperative view of the hypopharynx. Exposed part of the fish bone is grasped by curved forceps (arrow). White fur and erosion of the mucosa are also seen. *, post cricoid lesion.

A rigid esophagoscope was used first, followed by a direct laryngoscope, but edematous mucosa covered with white fur, in addition to the narrow surgical view in the hypopharynx, obstructed identification of the fish bone. Thus, a rigid curved laryngo-pharyngoscope, which provided excellent findings of the hypopharyngeal space with a magnifying endoscope, was introduced. Accordingly, a 30-mm-long fish bone, which was mostly buried in the left posterior wall of the hypopharynx, was identified and successfully extracted by curved nasal forceps (Fig. 1C).

2.2. Case 2

A 74-year-old man was aware of a pricking sensation after eating grilled flatfish, and he saw an otolaryngologist in the regional hospital on the following day. Though CT showed a fine high-density object that was vertically impacted in the post cricoid region of the hypopharynx or intraluminally (Fig. 2A), it could not be identified on upper gastrointestinal endoscopy. When he was referred to our department, flexible laryngoscopy

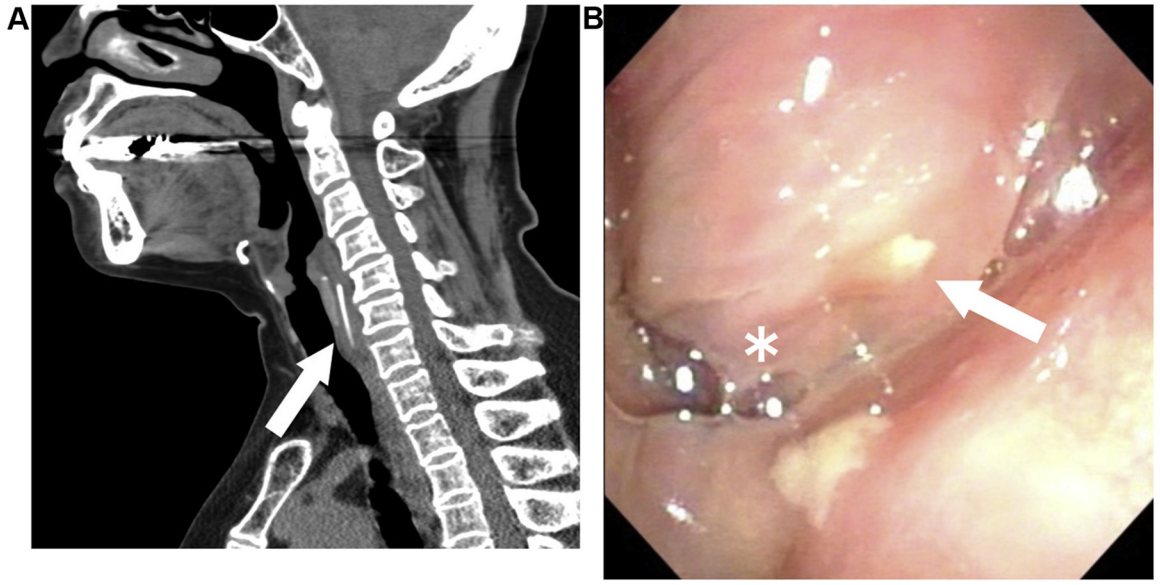

Fig. 2. (A) Sagittal CT shows the fish bone vertically in the posterior wall of the hypopharynx or intraluminally (arrow). (B) Intraoperative view of the hypopharynx. A white object buried in the dorsal side of the right arytenoid is seen (arrow). White fur is also seen in the posterior wall of the hypopharynx. *, post cricoid lesion.

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