Impact of endoscopic surgery for an uncommon liposarcoma of the posterior wall of the oropharynx: a case report

R Yoshii, J Yokoyama*, S Ohba, M Fujimaki, T Anzai, S Ito, K Ikeda

Abstract

Introduction
The majority of liposarcoma arise in the lower extremities; however, the incidence of liposarcoma of the oropharynx is extremely rare. We report a case of oropharyngeal liposarcoma that was successfully resected with an endoscope.

Case
A 48-year-old female with dyspnoea was referred to our hospital. We found a tumour that originated from the oropharyngeal posterior wall and extended to the hypopharynx. The tumour sometimes obstructed the aditus of the larynx; therefore, the patient had persistent discomfort because of the tumour. In order to maintain the oropharyngeal functions and for cosmetic purposes, the tumour was resected transorally with a constricted pharyngeal muscle using an endoscope, and the surgical defect resulted in naked pre-vertebral fascia. The defect was reconstructed with poly glycolic acid sheets. The patient could consume soft food on the first post-operative day and normal food on the fifth day.

Conclusion
An uncommon liposarcoma from the oropharynx extending to the hypopharynx was safely resected transorally with an endoscope, with preservation of good post-operative function and appearance.

Introduction
Soft tissue liposarcomas are common in the adult population. The majority of liposarcomas arise in the lower extremities and the retroperitoneum, while the incidence of this tumour in the head and neck region is reported to be very low, comprising 1.8%–6.2% of all cases\(^1\)\(^3\). Furthermore, liposarcoma of the oropharynx is extremely rare, with only three cases reported in the English literature\(^4\)\(^5\). Here, we present another case that was successfully treated with surgical resection.

Case report
A 48-year-old female with a five-month history of dyspnoea and a foreign body sensation on swallowing was referred to our hospital. There was no associated pain or weight loss. Her medical history indicated no abnormalities, and routine laboratory examinations were within normal limits.

Flexible fibrescopic examination revealed a tumour arising from the posterior wall of the oropharynx that extended to the hypopharynx (Figure 1). The mobility of the larynx was normal. An enhanced computed tomography (CT) scan showed an iso-low-density heterogeneous mass lesion, approximately 3 × 3.5 cm in size (Figure 2). There was no imaging evidence of cervical lymphadenopathy. We performed a biopsy and the diagnosis was suspected liposarcoma.

The tumour was resected along its capsule with the safety margin using a transoral approach under general anaesthesia. As the tumour had a wide pedicle on the posterior wall of the oropharynx, we resected it together with a part of the pharyngeal constrictor muscle. We used bioabsorbable fabric of poly glycolic acid (PGA) sheets and fibrin glue (MCFP technique\(^6\)) to cover the defect of the posterior wall of the oropharynx (Figure 3). Since the patient had no post-operative pain from the wound, oral feeding was started on the first post-operative day and no evidence of aspiration was detected. The patient made a good recovery and was discharged on the fifth post-operative day with a normal voice and no further obstructive symptoms. Approximately two weeks after the surgery, we exfoliated the PGA sheets.

* Corresponding author
Email: jyokoya@juntendo.ac.jp

Figure 1: Fibrescopic findings. Fibrescopic image showed a tumour arising from the posterior wall of the oropharynx. (a) Inhalation. (b) Exhalation.
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Sheets and confirmed that the wound had been well epithelized. The resected tumour measured 4 × 4.5 cm in size. It was yellowish in colour, smooth surfaced and well capsulated, and the margins were considered to be tumour free.

Histopathological examination showed collagenous fibrous tissue with scattered adipocytes and atypical multinucleated stromal cells. The final diagnosis was well-differentiated liposarcoma (Figure 4).

Discussion

Liposarcomas are malignant mesenchymal neoplasms that arise from adipose tissue and commonly occur in the lower extremities and the retroperitoneum. These tumours occur mostly in those aged 40–60 years, with a higher occurrence in men. The World Health Organization classified four subtypes: well-differentiated, dedifferentiated, myxoid/round cell and pleomorphic. Well-differentiated liposarcoma represents 40%–45% of all liposarcomas. It is classified as a low-grade neoplasm that is rarely metastatic and has a high recurrence rate.

A CT scan showed a heterogeneous mass lesion, mostly low density with a partial isodensity, and we therefore suspected a liposarcoma rather than a lipoma. Magnetic resonance imaging (MRI) is more effective for the detection and diagnosis of well-differentiated liposarcomas than a CT examination. However, because the patient suffered from claustrophobia, an MRI examination was not performed.

The general treatment for liposarcoma is surgical treatment. Resection should be as wide and meticulous as possible, because the fascia surrounding the liposarcoma is not a true enveloping layer. Incomplete excision can result in local recurrence. Saddik et al. reported that a tumour originating from the base of the tongue had been resected five times in the same region over the span of 23 years. However, wide surgical excision may leave a larger defect. In our case, we resected the tumour together with the pharyngeal constrictor muscle, resulting in a 4 × 6 cm defect of the posterior wall of the oropharynx. We used PGA sheets and fibrin glue to cover the defect. PGA sheets and fibrin glue have been used in cases of surgery for pulmonary emphysema. Yonezawa et al. reported...
the efficacy of this technique for wound defects after resection of Stage I and II oral cancer and precancerous lesions of the tongue, gingival and buccal mucosa, in which primary closure was difficult to perform. The surgical defects were covered with PGA sheets and fibrin glue spray (Mucosal defect Covered with Fibrin glue and Polyglycolic acid sheet: MCFP technique). It was suggested that it could serve as an alternative technique to a tie-over dressing or skin grafting. This technique was simple, and the duration of surgery was also short.

Routine regional lymph node dissection is not generally recommended, as node metastases of head and neck liposarcomas are quite rare\(^\text{12,13}\). Radiotherapy alone should not be used instead of surgery, although postoperative radiotherapy is recommended by most authors, especially in patients with high-grade lesions, and incomplete resection with positive margins\(^\text{14}\). The role of chemotherapy has not been clearly defined. Combined chemotherapy with doxorubicin, ifosfamide and imatinib mesylate resulted in quite promising results, but further investigations are required\(^\text{15,16}\).

Out of three reported cases of liposarcomas of the oropharynx, one post-operative recurrence was reported. In cases of hypopharyngeal liposarcomas, 10 cases were also reported in the English literature\(^\text{17-22}\). Out of 10 cases, five cases had postoperative recurrences\(^\text{17,22}\). In one case, there was a recurrence five years after the surgery. The pathological subtype of all cases was well-differentiated liposarcoma. These cases may have resulted from inadequate excision. It is critical to confirm complete resection of the tumour visually using an endoscope.

Oropharyngeal cancer extending to the hypopharynx was conventionally resected widely by transcervical open surgery and mandibulotomy with free flap reconstruction. However, Skoner et al\(^\text{23}\) reported that 50% of patients with stage III/IV oropharyngeal cancer treated with surgical tumour extirpation from the neck and free flap reconstruction required tube feeding. In contrast, in our case, the patient had no post-operative pain from the wound and consumed soft food orally on the first post-operative day without tube feeding. On the fifth post-operative day, because the patient had made a good recovery and was able to consume normal food and speak with a normal voice, she was discharged. These functional differences in the outcomes of conventional transcervical open surgery and our transoral approach resulted from preservation of the supra- and infrayoid musculature groups and preservation of the sensory nerves of the laryngopharynx.

In our case, there was no recurrence observed >6 months after the surgery, although careful, continuous monitoring will be necessary in the future.

Conclusion
An uncommon liposarcoma extending from the oropharyngeal posterior wall to the hypopharynx was safely resected transorally using an endoscope. Post-operatively, the functions and aesthetic appearance were well preserved.

Abbreviations list
CT, computed tomography; MCFP, Mucosal defect Covered with Fibrin glue and Polyglycolic; MRI, magnetic resonance imaging; PGA, poly glycolic acid.

Consent
Written informed consent was obtained from the patient for publication of this Case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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References

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