Lipoma is a common benign mesenchymal tumor composed of mature adipocytes that can develop in any region containing adipose tissue. Generally, this tumor is arising in the subcutaneous tissues of the back, neck, shoulders, and face (cheek or scalp). Although lipoma originating from the buccal fat pad sometimes occurs in the buccal space, there are a few reports of lipoma in the masticator space in the English-language literature. As a minimally invasive surgery, endoscopically assisted surgery has been recently introduced in facial surgery, such as resection of benign tumors. Therefore, we report endoscopically assisted intraoral resection of lipoma in the masticator space as a minimally invasive approach.

A 58-year-old male with left buccal swelling was referred to our department. The left buccal mass was 40 mm × 25 mm in size. Magnetic resonance imaging showed the well-defined, oval-shaped lesion (23.1 mm × 20.1 mm × 10.9 mm) was located on the lateral side of the left masseter muscle (Figure 1). The lesion was diagnosed radiologically as lipoma in the masticator space. As a minimally invasive approach, the patient underwent endoscopically assisted intraoral resection of the lipoma in the masticator space under general anesthesia. A 2-cm mucosal incision of the anterior border of the mandibular ramus was made, and we exposed the anterior part of the masseter muscle. A 30°, 4-mm-diameter endoscope with tissue retractor (Karl Storz) was inserted into the surgical space. The anterior aspect of the lesion was exposed by gentle dissection, and complete removal of the lesion was performed along the lateral side of the masseter muscle with preservation of the facial artery and vein under endoscopic guidance (Figure 2).

The yellowish and lobulate specimen was 35 mm × 23 mm in size, and pathological diagnosis was lipoma (Figure 3). The postoperative course was uneventful without facial nerve injury, and there was no recurrence 12 years after surgery.

The masticator space is a deep facial space that is outlined by the superficial layer of the deep cervical fascia. Adjacent to the masticator space are the buccal space anteriorly, the parotid space posteriorly, the parapharyngeal space medially, the submandibular and sublingual spaces inferiorly, and the skull base superiorly. The masticator space contains the 4 muscles of the mastication (masseter, medial and lateral pterygoids, and temporalis), the ramus and posterior potion of the body of the mandible, the maxillary vessels, and the mandibular (V3) branches of the trigeminal nerve (cranial nerve V). Primary tumors in the masticator space are rare and usually benign.

Lipoma is a common benign tumor of adipose tissue, but is relatively uncommon in the maxillofacial region. Especially, lipoma arising in the masticator space is extremely rare.

**Figure 1.** T2-weighted axial magnetic resonance imaging. Well-defined mass (arrow) with same intensity as that of subcutaneous adipose tissue.

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Although intraoral approach can be performed to resect lipoma in the buccal space, the intraoral resection in the masticator space is very challenging. The principal difficulty is the reduced surgical field, when a classic intraoral approach is performed. Therefore, extraoral approach is selected for surgery for lesions in the masticator space, but there are potential risk of facial nerve injury and visible scar. To select an appropriate approach, the balance between surgical safety and cosmetic and minimally invasive aspects must be considered.

Endoscope can offer both good illumination and excellent magnification, permitting safe anatomical dissection. Pyon et al performed endoscopic excision of cheek (subcutaneous, sub superficial musculoaponeurotic system, buccal fat) lipoma through two 1.5-cm skin incision: one on a hair-bearing sideburn and the other behind the earlobe along the retroauricular sulcus. In contrast, Guerrissi reported endoscope-assisted intraoral resection in medofacial lateral tumors, such as masseter tumor and tumor in minor salivary gland or anterior portion of the parotid gland. Although intraoral approach to the lesions in the masticator space is anatomically complex, the anatomic understanding and use of the endoscope can allow the surgeons to safely resect the lesions without any complications.

To our knowledge, there were 2 patients (8-year-old boy and 40-year-old male) with lipoma in the masticator space. One lipoma on the lateral side of the left masseter muscle was resected via an extraoral submandibular approach. The other lipoma on the medial side of the right masseter muscle was resected easily via intraoral approach. In the present case, lipoma on the lateral side of the left masseter muscle could be resected safely without complications in endoscopically assisted intraoral approach.

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