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Endoscopically-assisted intraoral removal of submandibular gland oncocytoma

KEYWORDS
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Oncocytomas are benign salivary gland tumors composed exclusively of large epithelial cells with characteristic eosinophilic granular cytoplasm, and represent 0.2–0.6% of all salivary gland tumors.[1–3] The incidence of submandibular gland (SMG) oncocytoma was 0.2–0.9% of all submandibular gland tumors in large number of studies.[1–3]

A 54-year-old female was referred to our department with a right submandibular painless mass. Computed tomography showed a well-circumscribed, round-shaped homogeneous mass (23 × 24 × 30 mm) in the right SMG (Fig. 1A–C). Clinical and radiological diagnosis was benign SMG tumor. The patient underwent intraoral removal of the SMG tumor under general anesthesia. A 3-cm mucosal incision on the oral floor was made (Fig. 1D), and Wharton's duct and lingual nerve were identified. After Wharton's duct was isolated along the lingual nerve to the hilum of the submandibular gland, the duct was ligated and cut. The submandibular ganglion was ligated and cut, and the lingual nerve was preserved. Soft tissues surrounding the SMG were dissected bluntly, and the gland was exposed more prominently by digital pressure applied beneath the lower border of the mandible by an assistant. The normal gland was gripped with forceps, and pulled up through the incision by gland dissection without rupture of tumor capsule. After the branch of the facial artery supplying blood flow to the SMG was ligated and cut, the tumor was removed completely in intraoral approach (Fig. 1E). A 30°, 4-mm diameter, endoscope with tissue retractor (Karl Storz, Tuttlingen, Germany) was used for ligation the branch of the facial artery and detecting residual gland and hemostasis in the submandibular space after removal of tumor and submandibular gland (Fig. 1F). Intraoperative rapid pathological diagnosis was oncocytoma. The pathological examination showed the tumor was composed of monotonous, polygonal, eosinophilic epithelial cells with a low N/C ratio (Fig. 1G). The postoperative lingual nerve paresthesia was recovered completely 3 months after surgery, and there was no recurrence 2.5 years after surgery.

A recent review showed that SMG oncocytoma presented as a painless mass (48%) and tender mass (27%), and the rest had no data on symptoms.[4] SMG oncocytomas are commonly unilateral, but a rarer bilateral case is also reported.[4] There is no gender preference.[4]

SMG removal is commonly performed via submandibular approach with 5–6 cm skin incision. However, there are potential risks of facial nerve injury and visible scar. Therefore, intraoral approach has been applied for removal of SMG tumors as minimally invasive procedure.[5] However, this intraoral approach without facial nerve injury and submandibular scar has higher possibility of lingual nerve injury than submandibular approach. Hong and Yang[5] were performed intraoral removal of submandibular gland tumor for 12 patients, and reported that the incidence of lingual nerve paresthesia was 50%. However, this paresthesia was temporary and was resolved within several days completely. In the present case, lingual nerve paresthesia was recovered completely 3 months after surgery. Because intraoral removal of submandibular gland can be performed safely without cervical scar and facial nerve injury, this endoscopically-assisted intraoral approach can be alternative to transcervical approach.

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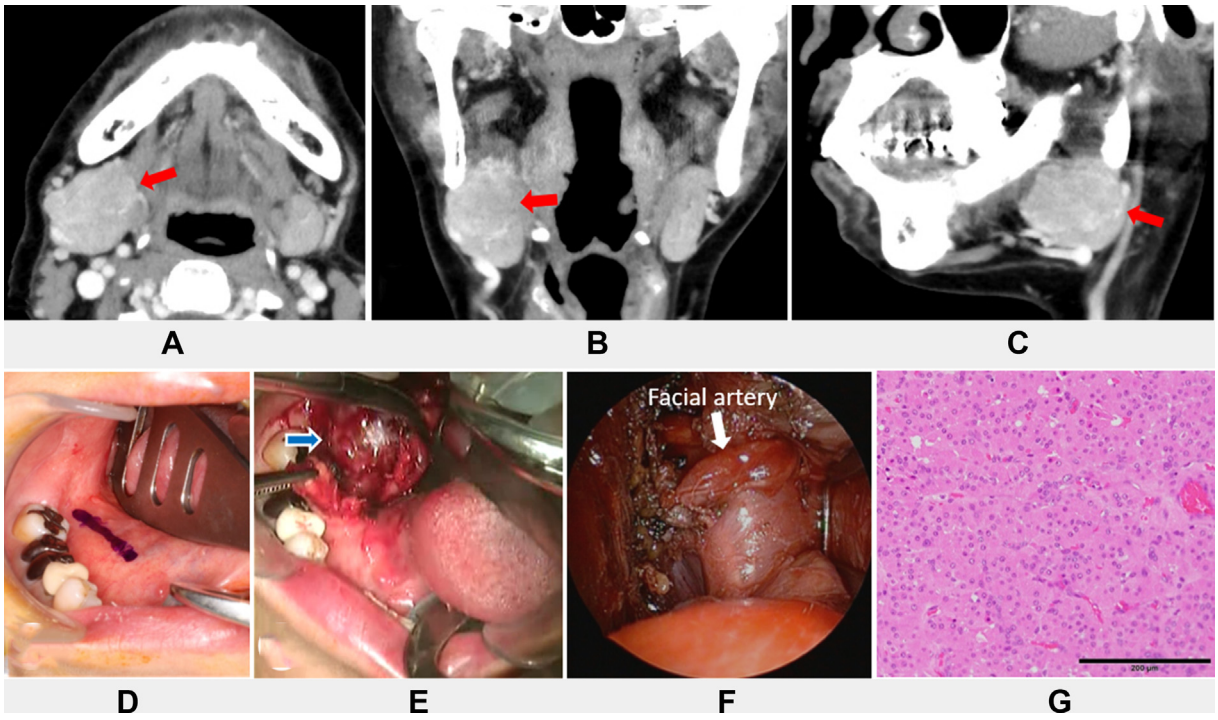

Figure 1 (A—C) Computed tomography (A: Axial image. B: Coronal image, C: oblique sagittal image) showed a well-circumscribed, round-shaped homogeneous mass (arrow) in the right submandibular gland. (D) Mucosal incision line. (E) Intraoral removal of oncocytoma (arrow) of the submandibular gland. (F) Endoscopic view after ligation of the branch of the facial artery. (G) Pathological examination showed the tumor was composed of monotonous, polygonal, eosinophilic epithelial cells with a low N/C ratio.

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