CASE REPORT
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GIANT FUNICULAR INTRAPHARYNGEAL SCHWANNOMA
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Abstract: Background. Schwannoma is a rare solitary tumor of Schwann cell origin. The Schwann cell surrounds peripheral nerve tissue and is believed to originate from neural crest. Surgery presents main treatment for patients with schwannoma.

Methods. This is a report of a rare case of giant and bizarre-shaped intrapharyngeal schwannoma. A 38-year-old woman with a very large schwannoma (25 cm × 6 cm × 4 cm), which gradually increased in size and with a progressive dysphagia, is presented.

Results. Schwannoma was detected by clinical and endoscopic examination and also with CT scan. Complete resection was achieved by external approach surgery.

Conclusions. The advantage of the lateral pharyngotomy with tracheotomy for complete excision of a mass is demonstrated. It provides an excellent operative exposure and recovery without impairment of breathing and deglutition. ©2008 Wiley Periodicals, Inc. Head Neck 30: 1128–1131, 2008

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Schwannoma (neurilemmoma) is a benign, encapsulated, uncommon, slow-growing submucosal tumor of neural origin.¹ Nerve sheath tumors rarely occur within the pharyngeal walls.²

CASE REPORT
A 38-year-old woman was admitted to the ear, nose, and throat department with a 6-month history of globus sensation in the throat and progressive swallowing difficulty. A significant weight loss (15 kg) in the previous 3 months had occurred. Oropharyngoscopy revealed a large, smooth, firm, midline located intrapharyngeal submucosal mass (Figure 1). It was contained predominantly on the posterior pharyngeal wall but also completely restricted the airway. Examination of the head and neck was otherwise normal. CT demon-
strated a homogenously well-encapsulated mass. As a result of these findings, a benign lesion was suspected. It was observed as having a remarkable size and extended into the pharyngeal walls. The mass was seen to obliterate 95% of the airway (Figure 2). Fine-needle aspiration (FNA) biopsy attempted under local anesthesia was unsuccessful because of the hardness of the tumor. A tracheotomy was first performed, after which, an external transcervical approach via lateral pharyngotomy was selected. Entry into the pharynx was accomplished by incising the mucosa. Tumor was not adherent to the surrounding tissue, and the intrapharyngeal funicular mass was completely removed using sharp dissection (Figure 3). The excised tumor measured 25 cm × 6 cm × 4 cm. The histopathologic diagnosis was benign schwannoma (Figure 4). A multilayer primary closure of mucosa and muscle was performed. A nasogastric tube was not placed, and oral liquid feeding was initiated 3 days after surgery. Recovery was uneventful, and there were no symptoms of any postoperative nerve injury. On postoperative day 7, the patient was decannulated. No recurrence was observed during a half-year follow-up.

**DISCUSSION**

Although pharyngeal schwannomas are not common, tumors of this size, shape, and location

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**FIGURE 1.** Mass presenting as submucosal bulge (arrows) involving the posterior pharyngeal wall. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

**FIGURE 2.** Axial CT scan showing well-defined, very large intrapharyngeal mass.

**FIGURE 3.** Lateral pharyngotomy approach: exposing the tumor with intact capsule and tumor removed from the pharynx not violated laryngeal structure and surrounding tissue with meticulous dissection. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

**FIGURE 4.** Microscopic findings of the tumor showing spindle cells with focal palisading of the nuclei arranged in short bundles and fascicles (hematoxylin-eosin stain, original magnification ×40). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]
could be considered as rare lesions. These tumors usually present as an asymptomatic mass and often grow silently to a considerable size before that disease becomes obvious or clinically detectable.6 The patient felt only retention when she swallowed solid and liquid and had no dyspnea or dysphonia, although the tumor was extremely large. No specific sign or symptom preoperatively identifies a nerve origin (as it is not normally affected), but most likely belongs to the pharyngeal plexus.7 Sometimes, pain and neurological deficit indicate degenerative changes of the tumor or malignancy.8 Grossly, the mass was well defined, but this did not help with the preoperative diagnosis. Because endoscopy and CT scan both provided essential information about the benign aspect of the lesion, an FNA biopsy was performed. It provided limited information, probably due to the presence of a firm capsule. The difficulties of using FNA biopsy for diagnosing schwannomas have been highlighted by others.9 Previous reports have suggested incising the mucosa to facilitate a deep, representative biopsy sample.10,11 Nevertheless, the use of presurgical biopsy presents a risk of creating a fibrous adherence between the capsule of the tumor and the mucosa of the pharyngeal wall, leading to difficulties with the later removal of the tumor. 

Surgical removal of a schwannoma arising in the pharynx is technically difficult because of the limited operative exposure and intricate neurovascular anatomic relationships. Although schwannomas are usually benign, their resection can be associated with significant postoperative morbidity such as impaired speech, compromised deglutition, or aspiration. Appropriate therapy for pharyngeal schwannoma requires complete excision with minimal injury to uninvolved areas, but the selection of surgical approach is controversial. Mainly 2 options have been frequently proposed: different external procedures14 and transoral approach by direct endoscopy.15 When the surgery is planned, the best approach inevitably depends on the tumor location and size and its relation to the surrounding structures. All cases reported to date involved a schwannoma only partially occupying pharyngeal cavity, and the largest tumor did not exceed 5 cm.14 Because potential neurological deficits are associated with the resection of these tumors, some have argued for a more conservative surgical approach such as enucleation of the tumor rather than resection from/with the nerve.15

In our case, the extensive size of the lesion made endoscopic enucleation impossible, and first, a tracheotomy was done. Lateral pharyngotomy has been proposed for laryngeal schwanna,16 but this presents risks of fistula and injury to cranial nerves X and XII. We found that following a lateral pharyngeal wall mucosa incision, careful surgical dissection gradually exposed the tumor. Separation of tumor from nerve is theoretically possible at the time of surgery,17 but it has been suggested that resection may be preferable to leaving a compromised nerve with poor residual function.18 The presence of fibrous capsule, which was left intact, facilitated our resection. By dissecting along the capsule and preserving the pharyngeal mucosa, scarring and granulation tissue formation can be avoided. A major complication in this technique is underestimating the size of the tumor with respect to extension either anteriorly to the base of the tongue or high into the area of tonsil. Because our approach allowed excellent pharyngeal exposure, there was not any interference with the laryngeal framework, and the postoperative recovery was reduced. Such total tumor resection prevents any signs of recurrence, as shown so far by our 6-month follow-up. Incomplete excision may be of concern because some tumors can undergo malignant changes and cause local destruction19 or may result in slow local recurrence over several months to years.20

In summary, intrapharyngeal schwannoma (ie, occurring in the hypopharynx or the posterior pharyngeal wall) is a very rare clinical entity. When the lesion is large, it may adhere to a broad segment of the originating nerve and assume a different clinical appearance. The external approach by lateral pharyngotomy with tracheotomy allows excellent exposure with minimal functional disability for giant intrapharyngeal schwannoma. In spite of the large dimensions of the tumor in our case, it was possible to spare the laryngeal framework (cartilage) and surrounding nerves.

REFERENCES


