Schwannoma of the larynx: A case report
Farahnaz Syeda, MS; Akhtar Hussain, FRCS

Abstract
Neurogenic tumors of the larynx are rare. We report a case of supraglottic schwannoma in a 59-year-old woman. We excised the tumor via a lateral thyrotomy approach.

Introduction
Neurogenic neoplasms involving the head and neck are uncommon. Schwannomas, most of which are benign, can arise from any peripheral, cranial, or autonomic nerve. Between 25 and 45% of schwannomas occur in the head and neck. Malignant transformation is rare. We report a new case of supraglottic schwannoma.

Case report
A 59-year-old woman presented to us with a history of increasing hoarseness. She had previously undergone removal of an adenoma from the left thyroid lobe and excision of a neurilemoma from the right vagus nerve. The resultant right vocal fold palsy was treated by another surgeon with a Teflon injection into the right fold. The patient was monitored with regular follow-up.

Eleven years later, the woman noticed a gradual worsening of her voice and dyspnea on exertion. Her original surgeon performed direct laryngoscopy, which detected a submucosal mass that affected the left false vocal fold. The surgeon obtained an endoscopic biopsy specimen from the left supraglottic area. Magnetic resonance imaging (MRI) revealed the presence of a lesion that extended from the level of the left aryepiglottic fold to the true vocal fold (figure 1). The mucosa was intact. Histologic analysis identified a thickened squamous epithelium with no evidence of any malignancy.

Five months later, the patient was admitted as an emergency case after complaining of shortness of breath, which was determined to be biphasic stridor. Laryngoscopy revealed that a swelling in the left supraglottic area had obstructed the airway. She was initially managed with nebulized adrenaline and humidified oxygen. A tracheostomy was performed, and a repeat biopsy of the left aryepiglottic fold was obtained. Histology revealed features of a neurofibroma. MRI demonstrated a left supraglottic mass, as well as a tumor in the left carotid sheath, which had possibly arisen from the left vagus nerve. At that point, the patient was referred to us.

We excised the left supraglottic mass via a left thyrotomy approach without violating the mucosa (figure 2). We explored the left carotid sheath and found no lesion. Histology identified the lesion as an Antoni type A schwannoma (figure 3). The patient’s postoperative recovery was uneventful.

On follow-up, flexible laryngoscopy revealed good healing but paresis of both vocal folds. Two months later, the paresis of the left fold had begun to abate. The airway was found to be adequate. The patient was admitted for a trial of decannulation, but it was unsuccessful. She then underwent right vocal cordotomy and excision of the right arytenoid vocal process. She was successfully decannulated 2 weeks later, and the tracheostoma was closed. Fiberoptic laryngoscopic examination revealed that the mobility of the left vocal fold had returned. The patient was satisfied with her breathing and swallowing, and she continued to be monitored at regular intervals.

Discussion
In 1908, Verocay became the first to describe a schwannoma. The aryepiglottic fold is the most commonly reported site of origin. The most frequently involved nerve is the internal branch of the superior laryngeal nerve.

Schwannomas commonly occur during the fourth and fifth decades of life, and they have a female preponderance. They are slow-growing and usually solitary. Neurofibromas involve both sheath cells and nerve fibers. Schwannomas are encapsulated, and they grow eccentrically away from the nerve trunk; neurofibromas exhibit diffuse proliferation, and they grow within the nerve trunk. Multiple neurofibromas are associated with von Recklinghausen’s disease (neurofibromatosis type 2). Schwannomas and neurofibromas account for 0.1 to 1.5% of all benign laryngeal tumors.
The well-formed fibrous capsule of a schwannoma is an important morphologic feature. The two main histologic patterns are Antoni type A and Antoni type B. In Antoni type A tumors, compact cells and fibers form interlacing bands, rows, or whorls; a palisade arrangement that forms Verocay bodies is characteristic of type A. The pattern of Antoni type B tumors is one of loosely arranged spindle cells. Immunohistochemical analysis of a schwannoma shows strong staining with S-100 protein. Malignant transformation of a primary schwannoma is rare.

Patients with schwannomas of the head and neck region typically present with hoarseness, sore throat, odynophagia, dysphagia, dyspnea, stridor, and/or a foreign-body sensation. On laryngoscopy, most lesions appear as a smooth submucosal swelling confined to a false vocal fold or an aryepiglottic fold; a small percentage arise on a true vocal fold.

Computed tomography and MRI are valuable in the diagnosis of schwannomas. Surgery is the mainstay of treatment. A tracheostomy may be required to relieve airway obstruction. Smaller lesions can be excised through an endoscope, with or without the use of a laser. An external approach is indicated for larger tumors—either a lateral pharyngotomy, lateral thyrotomy, or a laryngofissure technique. Wide excision is required to prevent recurrence.
lateral thyrotomy provides an excellent approach without injury to the vocal folds or laryngeal mucosa. Following a complete removal of the tumor, the patient’s prognosis is good.

References

Continued from page 730

asymptomatic, only to be discovered serendipitously on routine laryngopharyngeal examination. In most cases, lipomas cause mild symptoms, such as a lump in the throat, voice alterations, dysphagia, or respiratory distress, depending upon their size. Clinically, they can be difficult to differentiate from other benign lesions such as laryngoceles and retention cysts.

CT and MRI are used to aid in the diagnosis. These modalities reveal not only the extent of the tumor, but its lipomatous nature, as well. Compared with CT, MRI offers superior soft-tissue definition and better visualization of the laryngeal musculature.

Treatment depends on the tumor’s size and anatomic location and on the degree of respiratory compromise. Tracheotomy may be necessary to ensure and protect a patent airway prior to definitive treatment. Surgical excision is the treatment of choice; again, the approach is dictated by the size and location of the tumor. Incomplete removal inevitably leads to recurrence.

References