**Beware: Unilateral Reinke’s Oedema of the Larynx**

**Abstract:**

A thirty-year-old man presented with hoarseness of recent onset. The underlying cause was a glottic schwannoma, which led to development of unilateral Reinke’s oedema. Schwannomas arising in the paraglottic space are rare.

**Introduction**

Patients presenting with changes in voice quality are initially investigated in the ENT clinic with flexible nasendoscopy with or without video-stroboscopy, as these allow direct vocal cord visualisation. Reinke’s oedema results from loss of submucosal support, and is usually bilateral. We report a case of a young male who presented with hoarseness due to unilateral Reinke’s oedema, and was found to have a rare cause to explain this unusual finding.

**Case Report**

A thirty-year-old man was referred to our clinic for evaluation of hoarseness of recent onset. He was a non-smoker, and denied any reflux symptoms. He had no other risk factors, and his past medical history was non-contributory.

General physical examination was unremarkable. Flexible nasendoscopy revealed Reinke’s oedema, involving the right vocal cord and extending to the anterior third of the left vocal cord, with no evidence of reduced vocal cord movement. Further evaluation with microlaryngoscopy confirmed Reinke’s oedema, which was treated with incision of the anterior vocal cord surface and fine suctioning of the oedematous mucosa. On follow-up, the patient reported no improvement in his symptoms. Reinke’s oedema persisted. Evaluation with video-stroboscopy showed reduced right vocal cord movement. This led us to suspect the possibility of the swelling extending deep to the right vocal cord, with a soft-tissue lesion producing a mass effect. Magnetic Resonance Imaging (MRI) of the larynx demonstrated a 2-cm mass occupying the right paraglottic space (Figure 1).

The patient underwent a complete resection of the lesion via microlaryngoscopic approach. Histopathological findings were consistent with a benign schwannoma (Antoni type-A), and were confirmed on immunohistochemistry with reactivity for S100 protein. Post-operatively, the patient made an excellent recovery, achieving normal vocal cord movement and fully regaining his voice. There was no evidence of recurrence on six-monthly follow-up. His screen for neurofibromatosis was negative. In view of the above findings, we propose this case to be a schwannoma of either recurrent laryngeal nerve or the external branch of the superior laryngeal nerve.

Discussion

Reinke’s oedema can occur following voice abuse, smoking or reflux. Usually bilateral, it is characterised by oedematous changes within the superficial layers of lamina propria, producing a balloon-like appearance of the vocal cords on laryngoscopy. The swelling reduces vibrating amplitude and causes low-pitched voice, hoarseness, and difficult phonation. Unilateral vocal cord involvement is suggestive of an underlying lesion, and requires further evaluation with video-stroboscopy. Reinke’s oedema is commonly bilateral, but can be unilateral. The lesion extends below the vocal cord, occupying the right paraglottic space (Figure 1).

Findings of soft-tissue mass on imaging, in the presence of vocal cord paresis should lead to suspect a possibility of a neurogenic tumour. Two main types exist: schwannomas and neurofibromas. The latter are commonly seen in neurofibromatosis, and can be multiple. In contrast, schwannomas are solitary and encapsulated, arising from Schwann cells of the cranial and peripheral nerves. The majority are benign; reports of malignant transformation are rare. Up to 45% of schwannomas occur in the head and neck region. Of those, less than two percent are found in the larynx, while glottic involvement is even less common. The majority of lesions involve the internal branch of the superior laryngeal nerve, while the external branch is often involved. Vocal changes and dysphagia are common, while globus sensation may be due to growing tumour producing a mass effect. Schwannomas appear as isointense lesions on T1-weighted MRI; T2-weighted images produce a characteristic hypointense lesions, differentiating them from sarcomas. Histologically, schwannomas exhibit distinct cellular architecture. Antoni type-A pattern refers to spindle-shaped cells, nuclei of which are organized in rows, while Antoni type-B is characterized by loose arrangement of spindle cells within the myxoid matrix. Occasionally both types can be seen within the same lesion. Positive immunohistochemical reaction for S100 protein confirms the diagnosis of schwannoma.

Owing to their high resistance to radiation and characteristic encapsulation, surgical excision (endoscopically or by open approach) is the mainstay of treatment. Complete resection is associated with excellent prognosis, allowing normal or near normal restoration of the nerve function.

**References**