Laryngeal schwannomas-case reports with rare presentations

H. Vijayendra · Nanjundappa · R. Sangeetha

Abstract Schwannomas also known as Neurilemmomas are benign encapsulated, slow growing perineural tumours of Neuro-ectodermal origin that arise from the sheet of schwann cells. Two cases are being presented due to their rarity and in both cases the diagnosis was arrived at after the excision of the tumour.

Keywords Schwannomas · Indirect laryngoscopy examination

Introduction

Schwannomas also known as Neurilemmomas are benign encapsulated, slow growing perineural tumours of Neuro-ectodermal origin that arise from the sheet of schwann cells.

These tumours can occur anywhere in the body and 25–45% occurs in the head and neck region. Schwannomas affect women more than men, frequently seen between 2nd–6th decade of life.

The most common site of origin is the parapharyngeal space where lesions arise from the cervical sympathetic and the vagus nerve, the vagus nerve being the most common site of origin.

We present 2 Case Reports of Schwannomas:

1. Originating from the true vocal cord which is a rare site.
2. Schwannoma of the recurrent Laryngeal nerve.

Case report 1

A 45-year-old male presented to our centre with a 2 month history of hoarseness of voice, wherein the patient is neither a smoker nor alcoholic and there was no history of voice abuse.

On clinical examination i.e. Indirect laryngoscopy examination, a smooth pale coloured round mass arising from the medial and superior margins of the anterior 1/3rd of the right vocal cord was observed.

A clinical diagnosis of right vocal cord polyp was made. After relevant investigations patient was posted for Microlaryngeal excision under G.A.

Per-Operatively base of the mass was seen to be hard and while cutting a grating sensation was felt, the entire mass excised in toto and sent for H.P.E to rule out malignancy.

The patient made an uneventfull recovery and was discharged the same day. To our surprise the HPE report

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Subsequent follow-up after 3 months showed no recurrence.

A 22-year-old female, presented with history of mass in the right side of the anterior aspect of the neck since 4 years. Insidious in onset and progressive in nature.

Indirect laryngoscopy examination- normal. FNAC- Inconclusive.

- CT Scan- An isodense mass involving the right lobe of the thyroid(Fig. 1) with central area of hypodensity(necrosis), pushing the rest of the thyroid and the trachea to the opposite side(Fig. 2). Hence a right HemiThyroidectomy with frozen section and procedure was planned.

A high-magnification photomicrograph of a tissue section stained with hematoxylin and eosin (H&E). The field is densely populated with spindle-shaped cells, which are elongated and have tapered ends. These cells are arranged in various patterns, including fascicles (bundles) and interlacing networks. The nuclei are dark purple (hyperchromatic) and vary in size, with some showing prominent nucleoli. The cytoplasm is pink and often blends into the surrounding extracellular matrix. The overall architecture suggests a malignant mesenchymal neoplasm, such as a sarcoma.

Figure 1 is a contrast-enhanced CT scan of the chest. It shows a large, well-defined, enhancing mass in the right lung base, consistent with a malignant lesion. The mass is approximately 5.7 cm in size. The scan is labeled "CONTRAST C T CHEST SCAN" and "RAGAVIS DIAGNOSTIC CENTRE".

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mass was freely mobile and attached to the parathyroid and the constrictors fibres. To our surprise and to the best of the surgeons knowledge the recurrent laryngeal nerve on the right side could not be traced either in the lower part of the neck or at the cricoid level. A piece of the Tumour was removed and sent for frozen section analysis.

Frozen section analysis- Benign spindle cell lesion-possibility of neurofibroma. The opposite lobe of the Thyroid was palpated and was found to be normal and the tumour mass was removed with ease. Wound closed inlayers.

On table the anaesthetist demonstrated-Right vocal cord palsy and patient had change of voice post-operatively. Final HPE Report- Well encapsulated Schwannoma with no atypia or Mitotic activity (Fig. 3). Three months post-operative follow-up patient has regained her normal voice.

Discussion

Schwannomas are benign, solitary slow growing tumours which was first described by Verocay in 1908. Schwannomas/ neurofibromas account for 0.1–1.5% of all benign laryngeal tumours.

Stout in 1935 described the origin from the schwann cells and termed Schwannomas, whereas neurofibromas consists of schwann cells, perineural, endoneural cells and fibroblasts.

The 2 main Histologic patterns are the

- 1 Antoni Type-A which consists of compact cells and the fibres form interlacing bands, rows, and the nuclei are arranged in palisading pattern at the end of the fibrillar bundle forming the verocay bodies which are characteristic of Type-A.
- 2 Antoni Type-B consists of loosely arranged spindle cells.

Usually the presentation of the schwannoma of the head and neck origin is hoarseness, sore throat, dysphagia, Dyspnoea, foreign body sensation. In our case the first patient presented with hoarseness of voice only. The second patient presented with swelling in the anterior aspect of the neck. Though the tumour mass was big the patient did not pres-

ent with change of voice. Laryngeal schwannomas-80% of which are seen in the supraglottis and the rest 20% are seen in the true and the false cords. Involvement of the true vocal cords is extremely rare, and less than 10 cases have been described in the English literature, affecting women more commonly than men. The most commonly involved nerve is the internal branch of the superior laryngeal nerve.

CT scan / MRI scan are valuable diagnostic tools, though at times it is difficult to differentiate schwannomas from other benign tumours of the larynx. In the case of schwannomas, the nerve fibres are splayed over the outer capsule in 50% of the cases, and direct relationship to the outer capsule is seen in the rest 50% of the cases as in the second case. The treatment of choice for schwannomas is surgical excision. Recurrence is seen to be very rare, even if a part of the capsule is left behind. Hence it is inconclusive as to the site of origin of the tumour mass as even though the patient had a large tumour, she did not have voice change, hence there could be a possibility that the tumour mass could be arising from a branch of the superior laryngeal nerve also.

Conclusion

These cases are being presented due to their rarity and in both cases the diagnosis was arrived at after the excision of the tumour.

Reference

1. Jamal MN (1994) Schwannoma of Larynx: Case report, and review of literature. *J Laryngol otol* 108(9):788–790
2. Taylor J, Stiefel M, Park SY (2006) Schwannoma of the True vocal fold: a rare diagnosis. *Ear Nose Throat J* 85(1):52–53, 59
3. Tzagkaroulakis A, Stivaktakis J, Nikolopoulos T, Davilis D, Zeivoudakis D (2003) Ancient Schwannoma of True Vocal cord. *ORL* 65:310–313
4. Zbaren P, Markwalder R (1999) Schwannoma of True vocal cord. *Otolaryngol Head Neck Surg* 121:837–839
5. Syeda F, Hussain A (2005) Schwannoma of the larynx: a case report. *Ear Nose Throat J* 84(11):732–734