# Schwannoma of the Nose at the Keystone Area in Relation to the Dorsal Nasal Nerve

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Indian J Plast Surg 2024;57:79–80.

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Schwannomas are well-circumscribed, solitary benign encapsulated tumors arising from Schwann cells, which originate from neural crest cells.[1] They constitute only 4% of the head and neck tumors and involve the paranasal sinuses and nasal cavities.[2] About 80% of cases involve the vestibulocochlear nerve, followed by the trigeminal nerve in this region.[3]

A 27-year-old woman presented to us with complaints of swelling over the nose for the past 8 months. She was medically managed for associated tension headaches. She gave no history of nasal obstruction, trauma, epistaxis, localized facial numbness, anosmia, or other swellings. Clinical examination showed a hemispherical, firm swelling of size $1.5 \times 1.0 \times 0.75$ cm over the rhinion and left keystone area in the subcutaneous plane, with side-to-side mobility and pinchable overlying skin. Deep palpation caused dysesthesia at the tip of the nose. Anterior rhinoscopy examination revealed no intranasal extension. High-definition ultrasonography (HD-USG) imaging showed no cystic degeneration. Computed tomography (CT) scan revealed a hyperintense lesion over the rhinion and left keystone area of the nose, with no bony or cartilaginous erosions. Contrast magnetic resonance imaging (MRI) showed the same with delayed centripetal filling of contrast with no blooming out effect or restriction diffusion (►**Fig. 1**).

Endonasal approach under orotracheal intubation was chosen for tumor excision. A transfixion incision was placed about 3 mm cranial to the caudal border of the caudal septal cartilage with the patient in the supine anti-Trendelenburg position. Dissection was carried out in the submucoperichondrial plane cranially, without disturbing the tip complex ligaments through the Weak's triangle up to the caudal border of the upper lateral cartilage until the lower pole of the swelling was reached and excised in toto (►**Fig. 2**). The excised specimen was firm and appeared grayish white in color measuring about $1.5 \times 1.3 \times 0.75$ cm.

The postoperative period was uneventful. Endonasal surgical management in our patient resulted in complete excision of the tumor, with complete relief of tension headaches and improved aesthetic outcome with no visible external surgical scars (►**Fig. 3**). No recurrence was found in the 1-year follow-up period (►**Fig. 3**).

The dorsal nasal nerve (external nasal nerve) is the distal continuation of the anterior ethmoidal nerve as it exits from the lower border of the nasal bone at the keystone area. It provides sensory innervation to the skin over the dorsum of the nose till the tip.[4] In our case, schwannoma was arising in close proximity to the external nasal nerve as deep palpation elicited dysesthesias of the tip of the nose. Schwannomas arising from the external nasal nerve causing aesthetic deformity have not been reported in the literature yet, to date. This patient had an aesthetic deformity, which prompted her to seek early clinical attention, before pressure effect erosions could begin.

Macroscopically, schwannomas appear as heterogenous, well-encapsulated masses with gelatinous or cystic components, and microscopically, these are characterized by areas of high cellularity with spindle-shaped cells (Antoni A areas), arranged with groups of parallel compact nuclei known as "Verocay bodies."[5] Here, we report in this patient a rare type of schwannoma showing hyalinized myxoid stroma with spindle-shaped cells arranged in a reticular pattern (Antoni B areas), confirming the diagnosis of benign schwannoma (►**Fig. 4**).

This case is reported for rarity in the site of occurrence, histological type, and for the endonasal surgical approach that brought maximal aesthetic satisfaction to the patient with immediate relief of her headache.

**article published online**
January 9, 2024

**DOI** https://doi.org/10.1055/s-0043-1778097.
**ISSN** 0970-0358.



Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

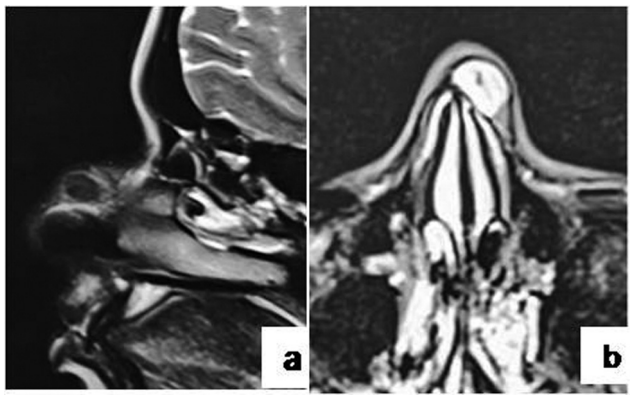


**Fig. 1** Magnetic resonance imaging (MRI) scan images. (**a**) Parasagittal section showing a well-circumscribed tumor at the keystone area. (**b**) Axial section (T2-weighted image) showing a tumor at the left keystone area.

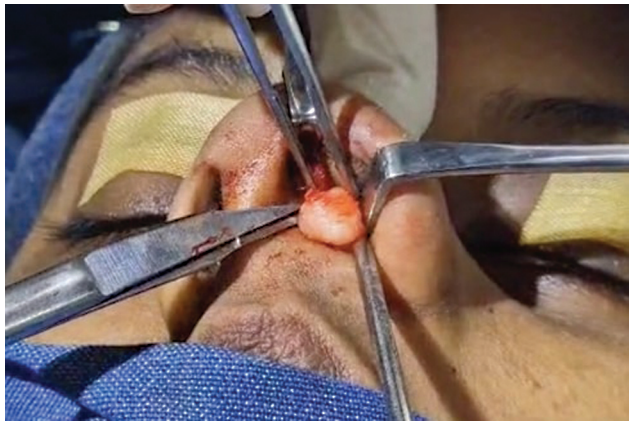

**Fig. 2** Intraoperative image showing the lower pole of the tumor being delivered through the endonasal approach.

Conflict of Interest
None declared.

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**Fig. 3** Clinical pre- and postoperative images. (**a**) Preoperative frontal view. (**b**) Preoperative right lateral view. (**c**) Postoperative frontal view. (**d**) Postoperative right lateral view.

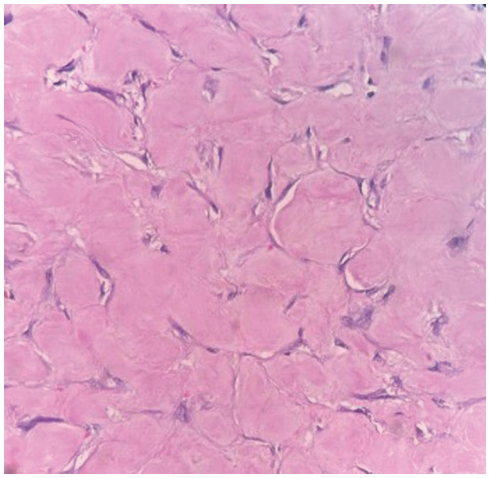

**Fig. 4** High power field histopathological examination of schwannoma with Antoni B areas.

 