



## PAEDIATRIC SCHWANNOMA OF THE RIGHT INFRA ORBITAL CANAL: RARE ENTITY

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### Abstract

Schwannomas are benign peripheral nerve sheath tumor which manifest as a slow-growing, solitary, encapsulated mass. Schwannomas of the oral cavity are uncommon, with the tongue, palate, and floor of mouth being the most prevalent sites. We present the case of a 6-year-old boy with right infraorbital swelling diagnosed as schwannoma underwent total excision via intra oral vestibular approach.

**Keywords:** Schwannoma Buccal Schwannoma Oral Schwannoma Benign Tumor, Head and Neck Tumor.

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## 1. Introduction

Schwannomas are slow-growing, encapsulated nerve sheath tumours that arise from myelinated peripheral or central nerve (1). Most commonly found in individuals between 20 and 70 years of age with female predilection. Schwannomas occur for 1%-8% of all head and neck tumours, while orbital schwannomas are uncommon, accounting for 1%-4% of all orbital tumours(2). They are usually solitary with well-defined margins and manifest as a slow progressing and painless mass that can cause proptosis(3). Schwannoma can be asymptomatic in the early stages; however, as the tumour grows, it may become symptomatic due to compression of the nerve or a neighbouring tissue. Orbital schwannomas are most commonly caused by supra-

orbital and supra-trochlear nerve involvement, with infraorbital nerve involvement being uncommon (1).

### Case presentation.

A 6 year-old boy presented to maxillofacial surgery department, government dental college Calicut on 2021 complaining of a history of swelling in right cheek and infra orbital region in the last 4 months. On clinical examination swelling of size 20 x 18 x 16 mm on right infra orbital region medially obliterating the nasolabial fold, laterally and inferiorly extending to buccal space and commissure of upper lip. hypertelorism and mild proptosis. With no diplopia and normal eye movements. Palpation revealed less firm consistency with paresthesia of upper lip, no pulsation or bruit. Aspiration was negative, no regional lymphadenopathy.



Figure 1 shows diffuse swelling on right infraorbital and buccal space and obliterating the nasolabial fold medially



Figure 2 Iso tense lesion in T1 related to right upper canine and first premolar

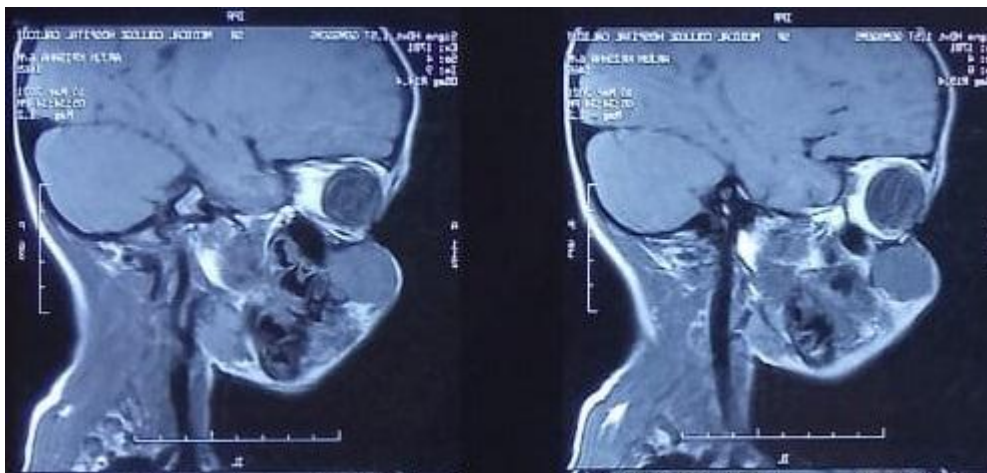


Figure 3 MRI cheek sagittal T1, T2 show well encapsulated lesion involving right infra orbital canal

MRI with axial and sagittal view reveals lesion with lobulated margins measuring 2.8 x 2.5x2.2 cm in right premaxillary region in subcutaneous plane extending to right infra orbital canal causing widening. Histopathologic examination revealed hypo- and hypercellular regions made up of spindle cells with wavy nuclei. The presence of a few Vero cay bodies led to diagnosis of Schwannoma. The

patient consented have the lesion removed under general anesthesia and was advised about the probable sensory deficit in the infra orbital distribution. An incision was made in the vestibule from 11 to 16 subperiosteal flap raised to expose the infra orbital foramen and nerve, lesion was excised out from canal and subcutaneous planes of infra orbital and buccal regions. Infra orbital nerve was protected.



Figure 4 Excised lesion in toto



Figure 5 Surgical site devoid of the lesion post excision



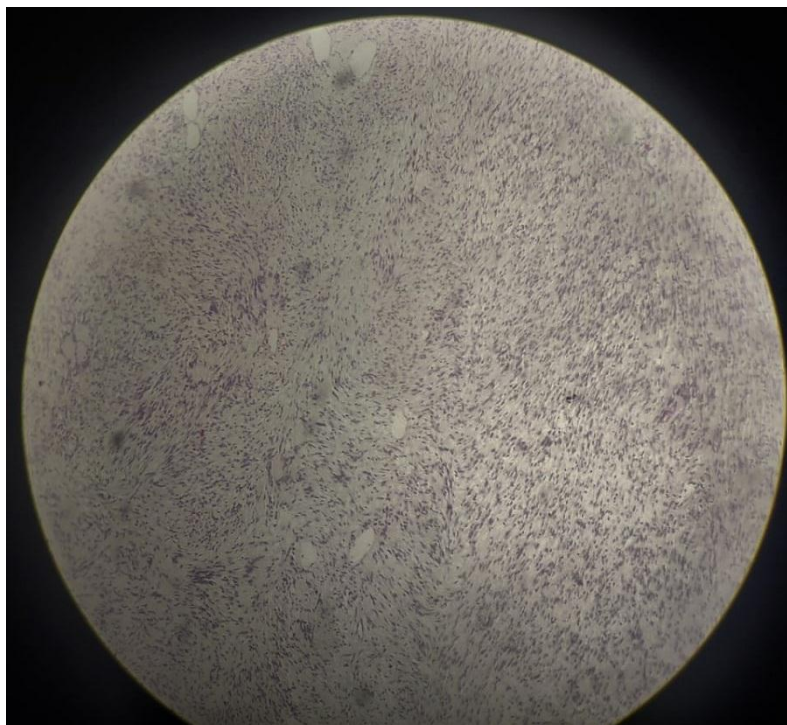


Figure 6 shows Antonie A, Antonie B, and Verrucae bodies with high cellularity

## 2. Discussion

Schwannoma may arise from any of the cranial nerves (mostly auditory nerve), with the exception of the optic and olfactory nerves (which lack Schwann cells in their sheaths) (6) The trigeminal nerve, particularly in the infraorbital nerve area, is infrequently associated with schwannomas. Neurofibroma, perineural tumor infiltration and isolated fibrous tumor are differential diagnosis for an infraorbital schwannoma. Schwannomas occasionally cause numbness or pain in the distribution of the affected nerve. [5] Our patient experienced paresthesia over the distribution of the superior labial branch of the infra-orbital nerve, which was most likely caused by pressure or direct involvement of the nerve's peripheral branch. During the surgical dissection, however, it was discovered that the lesion was originating from the nerve trunk of the peripheral branch of the infra-orbital nerve, which was preserved. Pre-operative imaging modalities such as CT and magnetic resonance imaging (MRI) are used. Schwannomas have low to intermediate signal intensity on T1W1 pictures and high signal intensity on T2W1 images with substantial post-contrast enhancement on MRI. (8) Though MRI is the preferred method of distinguishing the tumour from the surrounding structures, it is not routinely performed in all Sino nasal schwannomas. A contrast enhanced CT scan may provide comparable information to an MRI; however, the latter is far superior in displaying the

internal features and extension of the tumour (9). The treatment of choice is surgical excision, and the tumor should be removed as soon as possible. Since most schwannomas grow progressively causing nerve compression and atrophy. Inadequate excision can result in recurrence or possibly intracranial extension and leads to optic nerve atrophy and blindness (13). In the present case, the surgical challenge was to decide whether intra oral vestibular or transconjunctival approach or weber Ferguson incision (10) is feasible to excise the lesion from the infraorbital canal. We performed intra oral approach and dissected the lesion from infraorbital canal subperiosteally and tracked the encapsulated lesion to enter the subcutaneous planes of canine and buccal space to excise lesion in toto. The age, sex of the patient and the rampant progression and rarity of the lesion and hypercellularity illuminates the distinctiveness of this report. These high cellular tumors are prone to recurrence and malignant transformation 10-12 % (10), hence early treatment is advised to substantiate adversaries associated with tumor progression (4). In the present case, there was no sign of recurrence or visual acuity changes after 2 years of follow-up and paresthesia is resolved over the time.

## 3. Conclusion

Despite the rarity of infraorbital nerve schwannoma, it should be considered in the differential diagnosis of a painless, slow-growing cheek swelling. The

intraoral technique is a safe, successful, and aesthetically sound approach for excising infraorbital schwannoma and is strongly suggested for anterior tumors.

**Conflict of interest:** none

**Authors contribution:** All the authors have contributed for the publication of the article

**Informed consent:** Patient has been informed that his pictures will be used for publication purposes

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