Ourvinder Chawla

Sarah North and Julian M Yates

Schwannoma Presenting in the Soft Palate of a Nine-year-old Boy

Abstract: Swellings and tumours within the oral cavity are a common finding, however, benign intra-oral schwannoma or neurolemma is relatively uncommon, especially in younger patients. Involvement of the palate is a rare presentation although there have been a few reported cases relating to the lingual and other tissues.

Clinical Relevance: This paper reviews intra-oral schwannomas and presents a case of such a tumour of the soft palate in a paediatric patient and discusses the presenting features, differential diagnoses, along with the management of the condition.

Dent Update 2011; 38: 327–328

Clinicians are frequently presented with patients who are concerned about intra-oral swellings. Many of these swellings are common, are easily diagnosed and often the aetiological factor may be traumatic, infectious or neoplastic in nature. However, some are relatively uncommon, including schwannomas. A schwannoma is described as a benign nerve sheath tumour that presents as a solitary, slow growing swelling, originating from the Schwann cells from any myelinated nerve fibre. The tongue has been described as being the most common site of involvement and, very rarely, the soft palate. Importantly, a schwannoma can often be perceived as a more sinister lesion and can present as a difficult diagnostic challenge for the healthcare professional.

Case history

A healthy 9-year-old boy was urgently referred to the Paediatric Dental Department at the Charles Clifford Dental Hospital in Sheffield by his General Dental Practitioner with a 3-week history of a non-painful swelling of the soft palate. There was no history of trauma (physical or chemical) and, only recently, the patient reported that the lesion had gradually increased in size and was interfering with eating and swallowing. Past medical history and systemic enquiry reported nothing of note and extra-oral examination was unremarkable. Intra-oral examination revealed a non-carious mixed dentition. Furthermore, a solitary firm swelling was noted, measuring approximately 1 cm in diameter just to the right of the midline at the junction of the hard and soft palate (Figure 1). Closer examination revealed this was well demarcated by an erythematous zone. The overlying mucosa demonstrated slight ulceration with evidence of sloughing.

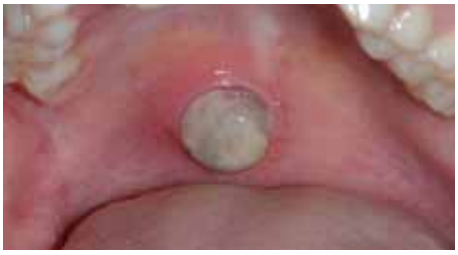

Figure 1. Schwannoma of the soft palate in a 9-year-old male.

Figure 2. A photograph illustrating the view obtained from a nasal endoscopy. The image shows the right nasal passage with the nasal septum (right), lateral nasal wall (left), nasal floor (inferior) with no evidence of lesion on the palate eroding through to the nasal floor. Note the presence of mucous secretions and debris (nasal floor).

Subsequently, the patient was urgently referred to the Oral and Maxillofacial Department for further assessment and treatment. As part of the consultation, screening haematological and biochemical investigations were undertaken which were all found to be within the normal reference range.

At the time of presentation a flexible nasoendoscopy was preformed under local anaesthetic to determine if there was any involvement of the naso-pharynx (Figure 2).

Owing to the lesion's presentation and following examination, it was decided to arrange for an urgent excisional biopsy

Ourvinder Chawla, BDS, MFDS, RCPS, Specialist Registrar in Orthodontics, Bristol Dental Hospital, Lower Maudlin Street, Bristol, **Sarah North**, BDS, FDS RCPS, Consultant in Paediatric Dentistry and **Julian M Yates**, BSc(Hons), BFDS, PhD, MFDS RCPS, FDS RCPS(OS), Senior Lecturer/Honorary Consultant in Oral and Maxillofacial Surgery, School of Clinical Dentistry, Claremont Crescent, Sheffield, UK.

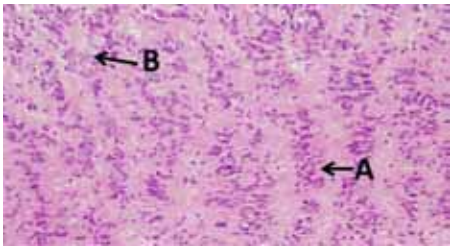

Figure 3. Photomicrograph exhibiting mainly Antoni A tissue demonstrated by wavy pallisading nuclei: **(A)** Antoni B pattern is seen towards the edges as a less orderly arrangement of nuclei in a loose myxoid stroma **(B)**.

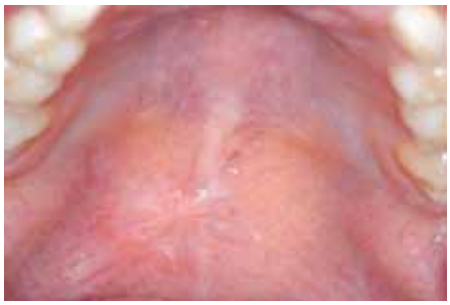

Figure 4. One year post excision of schwannoma.

to be performed under general anaesthesia and a diagnosis made histopathologically. Under anaesthesia, an excisional biopsy was performed, with care taken to obtain a clear margin but not to perforate the soft palate. No attempt was made to suture the area, instead haemostasis was achieved using electro-cautery and the area allowed to granulate during healing. The specimen was then sent for histological examination. The report subsequently detailed the appearance of alternating patterns of Antoni A and Antoni B tissues with a rich infiltrate of acute and chronic inflammatory cells. This diagnosis was consistent with a benign schwannoma (Figure 3). Following surgery the patient made an uneventful recovery and was discharged. Subsequently, the patient was placed under regular review to assess healing and determine if any recurrence had occurred. To date there has been no evidence of any recurrence.

Discussion

Schwannomas, also known as neurilemmoma or neurolemmoma were clinically first described by Verocay in 1908.[1] Later, in 1935, Stout recognized the histological origins of the tumour from Schwann cells, giving it the term schwannoma.[2] Embryologically, Schwann cells arise during the fourth week of development from cells of the neural crest. Many nerve fibres are enveloped by Schwann cells, forming the myelin sheath that provides insulation and aids nerve conduction.

Tongue	52%
Buccal or vestibular mucosa	19.86%
Gingivae and lip	19.84%
Soft palate	8.9%

Table 1. The distribution by percentage of intra-oral schwannomas.[4]

Schwannomas are described as benign, well encapsulated, slow growing lesions commonly occurring on the trunk, upper extremities and the head and neck region. Commonly, they occur as solitary lesions, however, multiple lesions have been reported in association with neurofibromatosis in von Recklinghausen disease. These are characterized by multiple skin neurofibromas and pigmentation. Head and neck schwannomas account for approximately 25% of all schwannomas,[3] and of these only 1% are found intra-orally. Generally, it is thought that the tongue has the most common involvement[4] (Table 1).

Schwannomas characteristically grow painlessly unless they attain a sizeable dimension and impinge on surrounding tissues, causing pressure symptoms. Depending on the site and adjacent anatomy, schwanommas have been known to cause facial paralysis and Horner's syndrome. Intra-oral symptoms can also include paraestheisa, obstructive symptoms including dysphagia, or can have an impact during mastication.

Schwanommas have not been associated with any known aetiological factor and may develop at any age, although they have been reported to occur more often during the second and third decades of life with no particular gender predilection.[5]

If completely excised, schwanommas show no recurrence, with malignant transformation almost never occurring.[6] Those reported were either mainly in association with radiation therapy or von Recklinghausen disease.[7] However, as with any undiagnosed mass, malignancy should always form part of the differential diagnoses until excluded (Table 2).

Trauma
Foreign body
Lipoma
Pleomorphic salivary adenoma
Adenoma
Haemangiomas
Epidermoid and Dermoid cyst
Granular cell tumour
Squamous cell carcinoma
Adenocystic carcinoma

Table 2. Differential diagnosis of intra-oral schwannoma.

Despite these solitary tumours rarely recurring, long-term follow-up is required so as to exclude generalized disease and, as a result, the slow growing nature of the lesion. In this particular case, the patient made an uneventful recovery and has shown no sign of recurrence at 1-year follow-up. (Figure 4).

References

1. Verocay J. *Multiple Geschwulste als Systemerkrankung am nervosen Apparate*. Festscrift fur Chiari, Wein and Leipzig, 1908: p378.
2. Stout AP. The peripheral manifestations of the specific nerve sheath tumor (neurilemmoma). *Am J Cancer* 1935; **24**: 751–796.
3. Pfeifle R, Baur DA, Paulino A, Helman J. Schwannoma of the tongue: report of 2 cases. *J Oral Maxillofac Surg* 2001; **59**: 802–804.
4. Wright BA, Jackson D. Neural tumors of the oral cavity. A review of the spectrum of benign and malignant oral tumors of the cavity and jaws**.** *Oral Surg Oral Med Oral Pathol* 1980; **49**: 509–522.
5. Olsen KD. Tumors and surgery of the parapharyngeal space. *Laryngoscope* 1994; **104**(Suppl 63): 1–28.
6. Krolls SO, McGinnis JP Jr, Quon D. Multinodular versus plexiform neurilemmoma of the hard palate – report of case. *Oral Surg Oral Med Oral Pathol* 1994; **77**(2): 154–157.
7. Ghosh BC, Ghosh L Huvos AG *et al*. Malignant schwannoma: a clinicopathological study. *Cancer* 31; **184**: 1973.