MAVEN

CASE REPORT

NEURILEMMOMA OF THE HARD PALATE: HISTOLOGICAL AND IMMUNOHISTOCHEMICAL EVALUATION

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ABSTRACT

Neurilemmoma, also known as schwannoma is a rare, benign, slow growing neural tumor derived from schwann cells. They are usually seen in the head and neck region but are very rare in the oral cavity with the prevalence of around 1%. Intra-orally, tongue is the most preferred site but occurrence on the palate is a rare presentation. Usually they are not among the list of clinical differential diagnosis and are diagnosed by histological examination of the tissue specimen. We report a rare case of 18 years old female patient com- plaining of a painless growing mass on hard palate which was excised and the final diagnosis was established based on histopathological and immunohisto- chemical examination. (2017, Vol. 01; Issue 01: Page 32 - 36)

Keywords: Oral cavity, S-100, Schwannoma

INTRODUCTION

Neurilemmoma also known as schwannoma, perineural fibroblas- toma, neurinoma is rare, benign, neural tumors which is encapsu- lated by epineurium and are ecto- dermal in origin and originates from schwann cells of the neural sheath (1,2,3). According to the literature only 1% of them occur intra-orally in which the most preferred site is tongue followed by floor of the mouth, palate, gingiva, vestibule, lips, salivary gland and mental nerve region (3). Usually it is a slow growing solitary tumor but occa- sionally seen as multiple lesions

when associated with neurofibro- matosis (1). On the basis of clinical examination, provisional diagnosis is difficult and its rare location brings other entities into differen- tial list which includes fibroma, neurofibroma, haemangioma, sali- vary gland tumors and pyogenic granuloma (1,4). They may occur at any age and show positive immuno- histochemical reaction for S-100 protein (1-4). The treatment of choice is surgical excision after which prognosis is usually excel- lent. Herein, we report a case of schwannoma of hard palate which was excised intraorally.

CASE REPORT

An 18 year old female patient re- ported to our outpatient depart- ment with a painless slow growing mass at right side of the hard palate crossing the midline since 4 years (Fig-1A). Intra-oral examination re- vealed a 1.5 X 2.0 cm sessile mass which was firm and non-tender on palpation with well-defined margins and was covered by normal appear- ing mucosa. There was small de- pression at the centre of the lesion which may occurred due to trauma which patient had undergone 3 months back while eating food (Fig- 1A). Aspiration was negative. All medical history was non-contribu- tory and her haematologic and bio- chemical findings were within nor- mal limits. Occlusal radiograph did not show any osseous alteration or bony erosion (Fig-1B). Based on clinical and radiological findings a provisional diagnosis of minor sali- vary gland tumour was made.

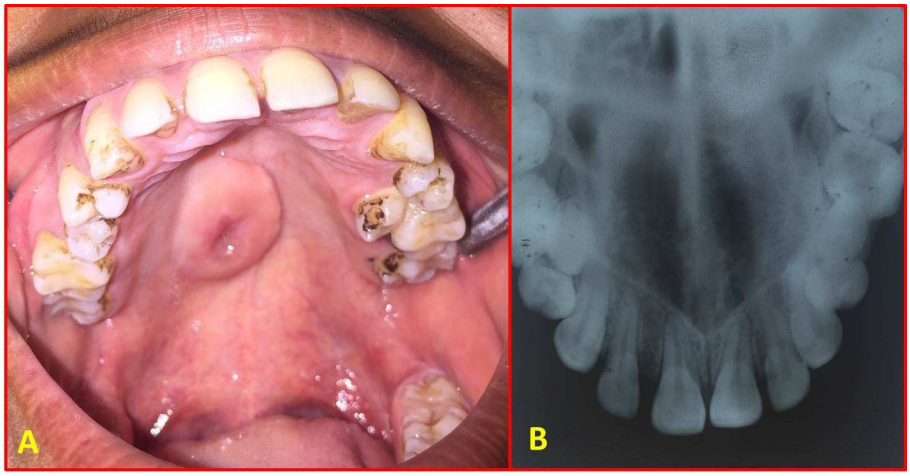

Fig 1: Pre-operative view (A) and Occlusal radiograph (B)

Following this mass was completely excised with healthy margins. The surgical specimen was labeled and was sent for histopathological eval- uation. Macroscopically tissue specimen was greyish white-brown in colour and measuring approxi- mately 2.5 X 1.0 cm in dimension (Fig-2). The tissue was processed and the sections thus obtained were stained by hematoxylin and eosin (H & E) stain.

Submitted soft tissue H & E stained sections revealed the presence of stratified squamous epithelium overlying fibro-cellular connective tissue stroma. Stroma revealed well encapsulated tumor which com- posed of spindle cells (Fig-3). In some areas nuclei lie in palisaded

clusters separated by an eosino- philic mass forming a more orga- nized Antoni A pattern (Fig-4A).

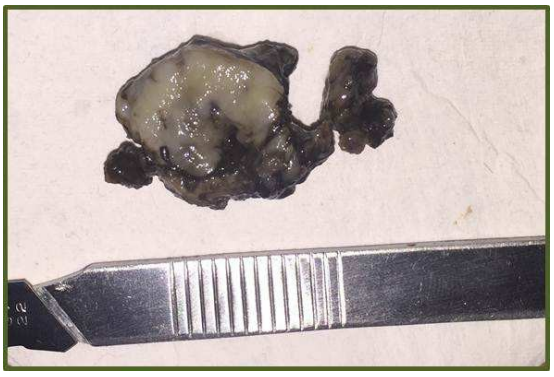

Fig 2: Gross specimen

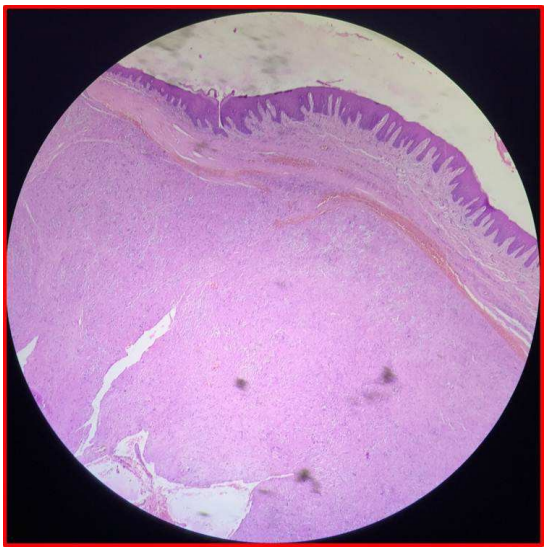

Fig 3: Photomicrographs showing encapsulated tumor (H & E stain, 4X)

Cells are also arranged in haphaz- ard arrangement in loose stroma which contain many small vacuoles and thus forming Antoni B pattern (Fig-4B). Stroma also showed prom- inent vascular component having dilated irregular vessels and thick fibrotic walls.

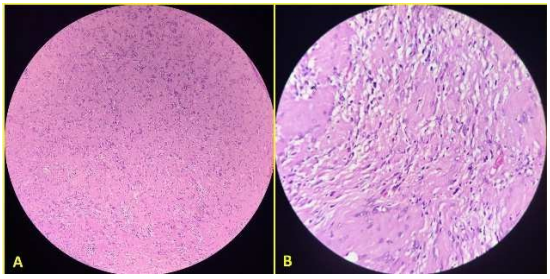

Fig 4: (A) Photomicrograph show- ing Antoni A (H & E stain, 10X) and (B) Antoni B pattern (H & E stain, 40X)

Following this, immunohistochemi- cal staining was carried out which showed positive reaction with S- 100 protein (Fig-5). Thus, based on these findings the final diagnosis of Neurilemmoma was made. The postoperative events were unevent- ful since six months.

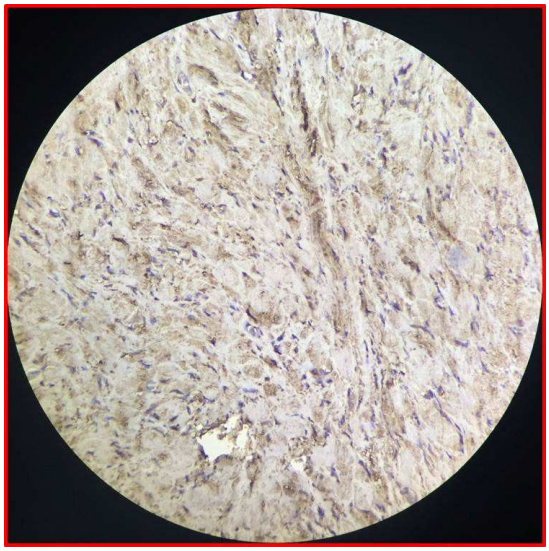

Fig 5: Photomicrograph showing S- 100 positivity (40X)

DISCUSSION

Verocay was the first to describe neurilemmoma as Neurinoma in 1910 after which Arthur Stout coined the term Neurilemmoma in 1935 (5, 6). The term schwannoma was suggested as it was thought to originate from Schwann cells of pe- ripheral nerve sheath.

Neurilemmomas are usually pain- less single tumors with no gender predilection. Clinically they can oc- cur centrally (within the bone) or as a peripheral lesion (3, 7). When arise peripherally, schwannoma can be of encapsulated type or pe- dunculated type (6, 8). Occasionally pressure by the tumor on the nerve in vicinity may cause paresthesia. 8-10% of intra-oral schwannomas can become malignant (9). Our case presents an encapsulated type of peripherally located schwannoma in which the tumor was surrounded by dense fibrous connective tissue capsule having no pain or paresthe- sia.

Exact etiology is still unknown but the tumour usually arises from the sensory nerves (8). Thus in the pre- sent case it may have originated from the sensory nerves passing from the greater palatine foramen. Clinical differential diagnosis at the present site commonly includes be- nign or low grade malignant sali- vary gland tumors like pleomorphic adenoma and mucoepidermoid car- cinoma and less commonly benign or low grade malignancy of mesen- chymal origin (10). Preoperative clinical diagnosis of schwannoma is difficult to make because of its in- frequent nature and its definitive diagnosis requires histopathologi- cal evaluation (3, 7).

Histopathologically, Neurilem- momas consist of two main bipha- sic patterns that is Antoni A and Antoni B. Antoni A pattern is better organized and consist of densely packed spindle shape Schwann cells having nuclei arranged in pal- isaded clusters. When two such clusters surround an amorphous eosinophilic mass, they constitute the Verocay bodies. Antoni B pat- tern is less cellular and less orga- nized; Schwann cells are dispersed in loose and fibrillar stroma con- taining small vacuoles with promi- nent vascular component with hya- linized vessels. Both the patterns were revealed in the present case (Fig-4).

Diagnosis is further supported by immunohistochemical evaluation by markers such as S-100 protein, Lev 7 antigen and Glial fibrillary acidic proteins which supports Schwann cell nature of the tumor (9). In the present case final diagno- sis was established by histopathol- ogy followed by S-100 immuno- histochemical staining.

Treatments always involve com- plete surgical removal even if the nerve of origin could not be pre- served. Early treatment is preferred because of the possibility of malig- nant transformation which has been reported in the literature.

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