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ScienceDirect
Annals of Diagnostic Pathology 14 (2010) 235–239
Annals of DIAGNOSTIC PATHOLOGY

Original Contributions

Clinicopathologic analysis of 7 cases of oral schwannoma and review of the literature☆

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Abstract Schwannomas, also known as neurilemmomas, are uncommon neoplasms apparently derived from Schwann cells. The growth of these tumors causes displacement and compression of the nerve of origin. Schwannomas are usually solitary lesions but can be multiple when associated with neurofibromatosis. Anti-S100 protein is the most widely used antibody for the identification of this neoplasm. Surgical excision is the treatment of choice for schwannomas, with few and controversial reports of recurrence or malignant transformation. The present article reports 7 additional cases of oral schwannoma, and the literature is reviewed regarding clinicopathologic features, immunohistochemical findings, differential diagnosis, and therapeutic management of this benign neural tumor.

Keywords: Neurilemmoma; Schwannoma; Neural tumor; Benign tumor

1. Introduction

Schwannomas are benign, slow-growing, epineurium-encapsulated neoplasms arising from Schwann cells that comprise the myelin sheaths surrounding peripheral nerves [1]. Schwannomas show 2 histologic patterns: Antoni type A and Antoni type B. Although these tumors may affect any site of the body, 25% to 48% of these lesions are found in the head and neck region [2,3]. Schwannomas of the head and neck occur both intracranially, mainly at the cerebellar pontine angle, and in peripheral soft tissues, mainly the tongue followed by the palate, floor of mouth, oral mucosa, and mandible [4]. Schwannomas involving soft tissues appear as a smooth submucosal swelling, resembling other lesions such as mucocele, fibroepithelial polyp, fibroma, lipoma, and benign salivary gland tumors [5].

Normally, schwannomas are slow-growing tumors that might be present for some years before becoming symptomatic. Swelling is the most common symptom, followed by paresthesia [6]. Over time, schwannomas may grow to large proportions, with their increase in size probably being associated with intralesional hemorrhage [7].

Conservative surgical removal is the treatment of choice, with wide excision not being recommended. If complete enucleation is achieved, no recurrence should be expected [8].

The present article reports 7 additional cases of schwannoma, all of them involving the oral cavity, and the literature is reviewed regarding peculiar clinicopathologic features, immunohistochemical findings, differential diagnosis, and therapeutic management of this tumor.

2. Case report

2.1. Case 1

A 41-year-old woman was referred to our department for evaluation of a painless, smooth, pinkish nodule located in the right posterior region of the hard palate. The nodule had been noted by the patient 5 years earlier. The patient's medical history was unremarkable. An excisional biopsy was performed based on the initial clinical diagnosis of

☆ Conflict of interest: The authors declare no conflict of interest.

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1092-9134/$ – see front matter.
doi:10.1016/j.anndiagpath.2010.02.009

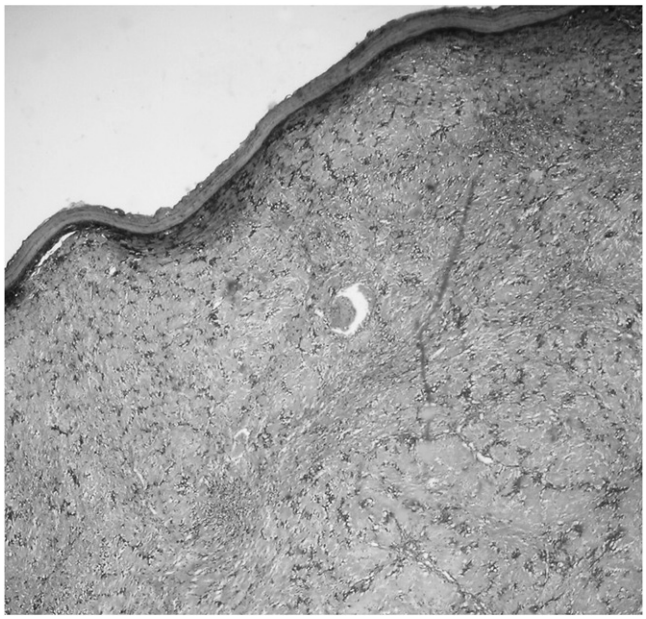

Fig. 1. A thick fibrous capsule surrounding the tumor with predominant Antoni A tissue (hematoxylin-eosin stain, original magnification: ×40).

pleomorphic adenoma. Microscopic analysis of the specimen revealed a benign neural tumor consisting of spindle-shaped cells in a loose texture (Antoni B tissue) and occasional Antoni A tissue. No cytologic atypia was observed.

2.2. Case 2

A 22-year-old man presented with a painless mass located on the right side of the floor of the mouth. His medical history was noncontributory, and the mass had been noted by the patient 8 months earlier. An excisional biopsy was performed based on the initial clinical diagnosis of epidermoid cyst. Histopathologic examination revealed a schwannoma consisting of encapsulated predominantly Antoni B tissue (Fig. 1) and hemorrhagic areas.

2.3. Case 3

An 18-year-old man presented with a 6-month history of a solid, irregularly lobulated yellow-tan nodule in the posterior region of the tongue. An excisional biopsy was performed, and the clinical diagnosis was fibroma. Microscopic analysis of the specimen revealed a pattern of alternating regions of hypocellularity and hypercellularity, known as Antoni A (Fig. 2A) and Antoni B (Fig. 2B), respectively. Cystic degeneration and multinodular features were also observed.

2.4. Case 4

A 46-year-old woman sought a general dentist for evaluation of a painless nodule located in the oral mucosa. The lesion had been noted 1 year earlier. The patient was submitted to an excisional biopsy and microscopic analysis revealed a conventional encapsulated schwannoma mainly consisting of Antoni A tissue. No cytologic atypia was observed.

2.5. Case 5

A 53-year-old woman presented with a swelling in the hard palate that had progressed over approximately 6 months. Clinical examination revealed a pinkish hard nodule measuring 3 cm in diameter. The patient reported no history of pain. An excisional biopsy was performed, and an area of bone erosion was identified beneath the lesion during surgery. Microscopic analysis of the specimen revealed a pattern of alternating regions of Antoni A and Antoni B tissue, cyst formation (Fig. 3A), and areas of epithelioid cells. Immunohistochemistry for protein S-100 Schwann cells was strongly positive and the diagnosis of schwannoma was made (Fig. 3B).

2.6. Case 6

In 2007, a 10-year-old child was referred to our service for evaluation of a 3-month history of a painless,

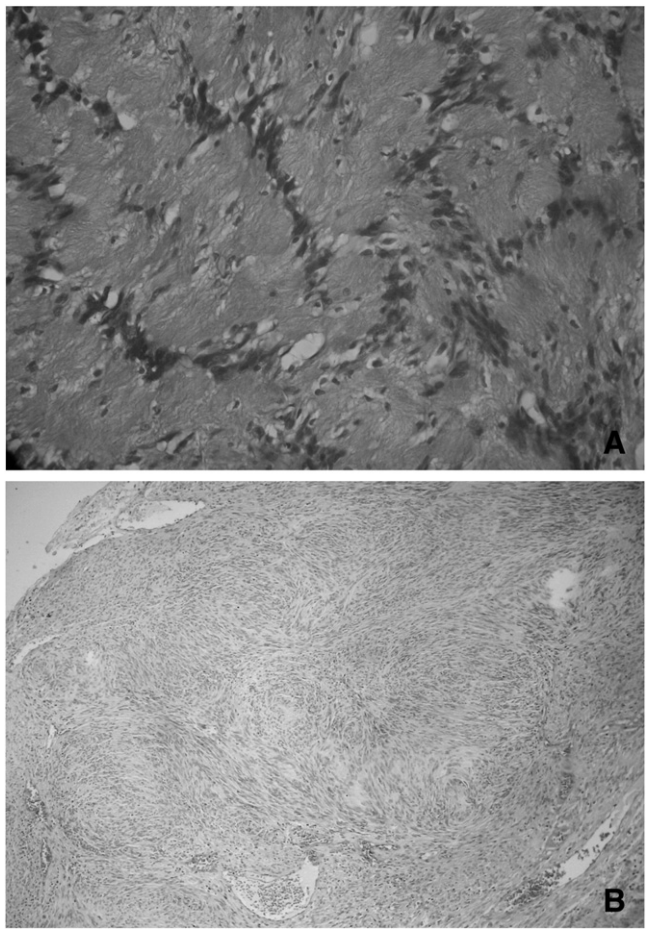

Fig. 2. (A) Antoni A tissue presenting spindle-shaped cells, nuclear palisading, and Verocay bodies in a schwannoma of the floor of the mouth (hematoxylin-eosin stain, original magnification: ×400). (B) Increased cellularity, predominant disorganized Antoni B areas, and scarce Antoni A tissue (hematoxylin-eosin stain, original magnification: ×100).