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Schwannoma: A brief review

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Abstract
Schwannoma is a relatively uncommon, slow-growing benign tumor that is derived apparently from the Schwann cells. The mobile portion of the tongue is the most common site, followed by the palate, floor of mouth, buccal mucosa, lips, and jaws. It can present itself at any age. Usually, this lesion is not taken into account during clinical practice and the differential diagnosis includes numerous benign neo formations based on epithelial and connective tissues. Immunohistochemical features can be useful in determining the neural differentiation. Anti-S100 protein is probably the most used antibody to identify this lesion. The schwannoma is usually a solitary lesion, and can be multiple when associated with neurofibromatosis.

Keywords: schwannoma, tumor, cells

Introduction

Schwannoma has been defined as a benign, encapsulated neoplasm that arises in the nerve fiber. This neoplasm is composed primarily of Schwann cells in a poorly collagenized stroma [1]. The etiology is unknown, but it is postulated that the lesion arises by the proliferation of Schwann cells at one point inside the perineurium. The growth of this lesion will cause the displacement and compression of the surrounding normal nerve tissue.

The tumor may arise at any age. Some series have reported that the schwannoma is more common in adults, in contrast to the neurofibroma which tends to be more frequent in young children [2]. Most reports suggest that the majority of tumors are present between the ages of 10 and 40 years [3, 4]. Some series report a higher incidence of Schwannoma in the female population 3, while others show a slight male predominance 4.Clinically, the tumor appears as a smooth-surfaced, usually painless, soft-tissue swelling with intact overlying epithelium. There have been approximately 146 schwannomas reported from the oral soft tissues [3-5].

The schwannoma is usually a solitary lesion. When multiple, however, they be associated with neurofibromatosis [1]. Then differentiation between schwannoma from neuro fibroma is essential, because an apparently "solitary" neuro fibroma may be a manifestation of neurofibromatosis. Fifteen to sixteen percent of patients with neurofibromatosis will present malignant transformation in one or more lesions, contrary to schwannoma 1

Histologically, the schwannoma is encapsulated and consists of varying quantities of two types of tissues-Antoni A and Antoni B. The treatment for schwannoma is surgical excision. Recurrence after excision of schwannoma is rare.

Discussion

Schwannoma is a benign tumor, apparently derived from the Schwann cells, which may arise from any myelinated nerve fiber [6-7]. The tumor is composed primarily of schwann cells in a poorly collagenized stroma [1]. This lesion is not commom in the oral cavity. The schwannoma is usually a solitary lesion, but can be multiple lesions when associated with neurofibromatosis [1].

Wright and Jackson [1], reported 146 cases of schwannoma of the oral cavity soft tissue. Of those, 52% occurred in the tongue, 19.86% in the buccal or vestibular mucosa, 8.9% in the soft palate, and the remainder 19, 24% were in the gingivae and lip.

Schwannomas of the hypoglossal nerve are rare tumors. These tumors are seldomly found in the sublingual space. When present, usually involves the most peripheral segment of the hipoglossal nerve [6].

Histologically, schwannomas are described as Antoni A type or Antoni B. Antoni type a present a parallel arragement of fibrocyte-like cells, and Verocay bodies. Antoni B, is less cellular and shows microvacuolation of the intercellular substance. Flickinger *et al*, reported that in most tumors both cell types are present [8].

Chrysomali *et al*. [3], reported that schwannomas consistently showed positive staining for S-100 protein in most of the tumor cells. The staining intensity was greater in cells in the Antoni A tissue compared with that seen in the Antoni B tissue. Chrysomoli *et al*., showed CD57-positive cells 0, 1% to 10% in schwannomas and neurofibromas.9

Ancient schwannoma, a variant of schwannoma, was first described in the thorax by Ackerman and Taylor, in 19519. This lesion contain both Antoni A and Antoni B pattern, with pleomophic nuclei, some of which may be hyperchromatic. Area of hemorrhage hemosiderin accumulation as well as mitotic figures may be seen Redman *et al*., reported a case of cellular schwannoma of the mandible. This tumor differs from classic schwannoma, by its increased cellularity, nuclear pleomorphism and hyperchromatism, lack of Verocay bodies, and frequently higher mitotic activity [10].

Lipomas, hemangiomas, eosinophilic granuloma, epidermoid and dermoid cysts, epithelial hyperplasia,

granular cell tumor, leyomioma, lymphangioma, are some of the lesions included in the differential diagnosis of schwannoma1. López and Ballestin [11], reported that the histological pattern of schwannoma is easily recognizable. The management of schwannoma requeres complete surgical excision of the lesion. Schwannoma rarely recidive and not respond to radiation therapy [1, 12].

The conclusion is that the benign Schwannoma represent a pathology which are often not taken into account during clinical pratice. Differencial diagnosis must be made in relation to numerous benign neoformations basead on epitelial and connective tissue and, malignant tumors. Immunohistochemical features can be useful in determing neural differentiation. Anti-S-100 protein is probably the single best antibody for this case. Treatment of the Schwannoma is complete surgical excision.

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