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SHORT REPORT

Neurilemmoma Originating from the Hypoglossal Nerve in the Floor of the Mouth

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A neurilemmoma or schwannoma is a benign, slow-growing and encapsulated tumour originating from Schwann cells (1-4). Approximately 25% to 40% of all neurilemmomas are seen in the head and neck region, and only 1% exhibit an intraoral localisation (5,6). Neurilemmomas of the hypoglossal nerve (XIIth cranial nerve) are uncommon, mostly originating from the intracranial portion or having a dumb-bell shape with intracranial and extracranial components (7,8). Neurilemmomas of the most peripheral segment of the hypoglossal nerve, in the lower oral cavity, are very rare.

Here we report a case of neurilemmoma originating from the hypoglossal nerve in the floor of the mouth.

Case Report

A 74-year-old man was referred by his dentist to our clinic concerning a mass in the left side of the floor of the mouth. We could not obtain any information about the growth rate and duration of the lesion because the patient was not aware of it and had gone to his dentist because of some other complaint. On physical examination, a tender, ulcerated, freely moveable mass, resembling a cyst, was palpated in the left anterior floor of the mouth. The ulceration was probably due to pressure by the ill-fitting lower partial denture on the mass. Mild atrophy of the left half of the tongue was noted, and the tip deviated to the affected side on protrusion. No adenopathy was detected in the head and neck region. Computerised tomography (CT) and magnetic resonance imaging (MRI) showed a circumscribed, sharply marginated, cystic lesion with internal septa formation. On T1-weighted images, the lesion appeared iso-intense to the adjacent tissue, whereas on T2-weighted images, a variably inhomogeneous appearance with high signal intensity was seen (Figure 1). The lesion was totally removed by an intraoral approach. During the surgical removal, the relationship between the tumour and the hypoglossal nerve was identified and careful separation and stripping were carried out to preserve the function of the nerve. Macroscopically, the surgical specimen was solid, yellowish-white with a dumb-bell shape and measured 6 x 4.5 cm (Figure 2). The postoperative period was uneventful. Histopathological examination revealed a neurilemmoma. Antoni B type tissue was present, with loosely cellular areas with vacuolated cells containing round or oval nuclei (Figure 3).

Neurilemmomas can be found anywhere in the oral cavity, with a predilection for the tongue, but occurrence in the floor of the mouth is uncommon (6,9). Central neurilemmomas of the jaws have been reported, mostly located in the mandible (6). The tumour develops in patients of all ages without an obvious preference for

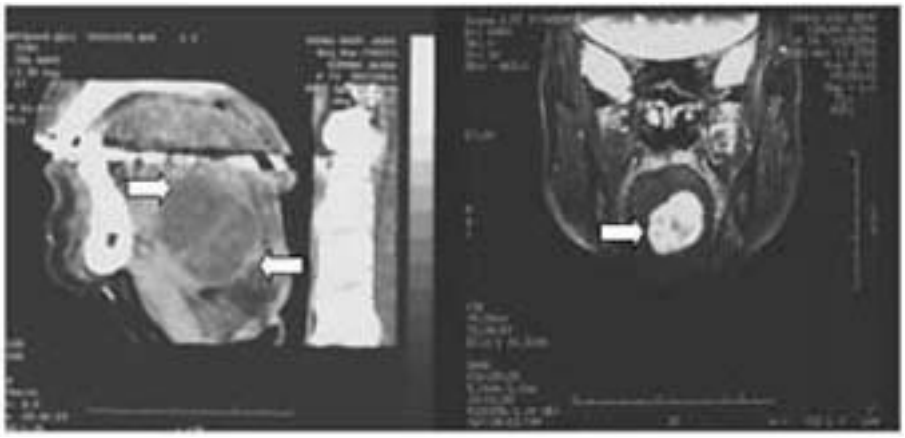

Figure 1. Sagittal view of the lesion in CT (arrows) (left side). T2-weighted MRI shows a inhomogeneous, hyperintense appearance (arrow) (right side).

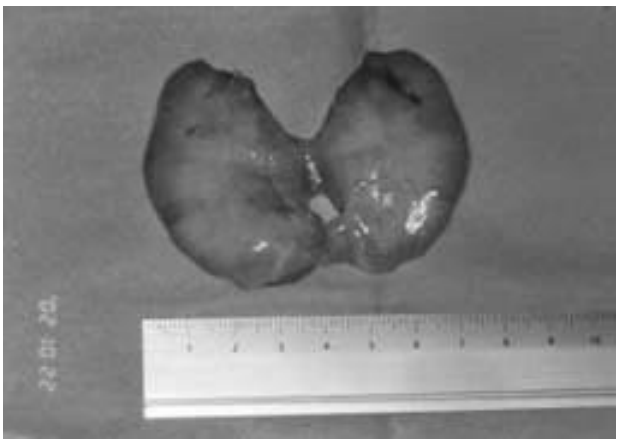

Figure 2. Appearance of the removed tumour.

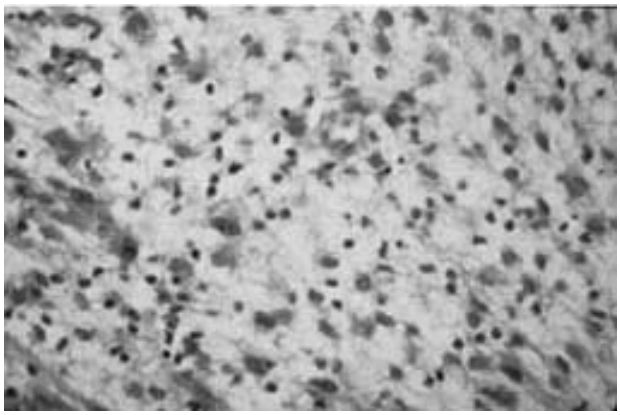

Figure 3. Microphotograph of the lesion showing a Antoni B type neurilemmoma (H.E x 100).

either sex (4,6). The reported duration of neurilemmomas before treatment ranges from 5 months to 49 years, with 45% of them having been present for less than 1 year (4). We are unable to make a contribution to this statement due to a lack of information. The tumour in this case was large when compared with those previously reported, because neurilemmomas rarely exceed a few centimetres in diameter, and generally measure less than 20 mm (4). Neurilemmomas of the hypoglossal nerve usually originate from the skull base segment of the nerve, being entirely intracranial or located peripherally and having a dumb-bell shape. Neurilemmomas of the most peripheral segment of the nerve, especially those located in the floor of the mouth, are uncommon (7,8,10). Damage to the infranuclear portion of the hypoglossal nerve results in deviation of the tongue on protrusion and tongue atrophy, as noted in our case.

When a palpable mass is found in the floor of the mouth, both CT and MRI can give elucidative information. It has been stated that MRI may be helpful in evaluating neurogenic tumours (5). Radiographically, neurilemmomas appear as well circumscribed, encapsulated, soft tissue masses. Secondary manifestations of hypoglossal dysfunction may be seen, particularly fatty infiltration and unilateral volume loss involving the tongue musculature (7). The treatment of choice for the tumour is surgical removal, but even in the case of incomplete excision, recurrence is low (3,6).

Malignant transformation of neurilemmomas is very rare (4,6).

Neurilemmomas of the floor of the mouth should be considered in the differential diagnosis of malignant tumours (on the basis of data relating to speed of growth and clinical appearance of the neoplasm) and numerous benign epithelial and connective tissue neoformations (lipoma, traumatic fibroma, leiomyoma, granular cell tumour, neuroma and adenoma) (6). A malignant neoplasm and a secondary hypoglossal nerve paralysis must be ruled out in the presence of hemiatrophy of the tongue. One should also keep in mind the signs and symptoms of neurological dysfunction, as the tumour may possibly originate from a cranial nerve.

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