

Schwannoma of submandibular gland

Roberto Becelli , Giorgio Matarazzo*

Università degli Studi di Roma "la Sapienza". Chirurgia Maxillo-Facciale, ospedale S. Andrea, via di Grottarossa 1036 – 00100 Roma

*Correspondence: Giorgio Matarazzo, Via San Martino della Battaglia 25 00185 Rome, Italy.

E-mail: matarazzo.giorgio@gmail.com. Tel / Fax : +39-06.298406

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Abstract. Schwannoma (Neurilemmoma) is a rare neurogenic tumor that arises from cells of the neural sheath, which was described for the first time in 1910 by Verocay. Presentation is usually asymptomatic but focal neurological signs and symptoms may be associated with nerve compression. The aim of this paper is to illustrate our experience on five consecutive patients affected by submandibular gland Schwannoma, arising from submandibular branch of lingual nerve, in the past six years, from 2011 to early 2018.

Keywords: Schwannoma; submandibular gland; lingual nerve

Introduction

Schwannoma (Neurilemmoma) is a rare neurogenic tumor that arises from cells of the neural sheath, which was described for the first time in 1910 by Verocay (1). S. is formed of a proliferation of Schwann cells and has a slow growth rate. Such tumor can be rarely observed in any peripheral, spinal or cranial nerve except the olfactory and optic (2). Extracranial neurogenic tumors of the head and neck are uncommon, with benign tumors occurring with greater frequency than malignant tumors, as previously reported (2-3). Almost 45% of all S. can be observed in head and neck area and previous articles reported occurrence of S. in infratemporal area, orbital district, parotid gland, and paranasal or pharyngeal area (4-8). Presentation is usually asymptomatic but focal neurological signs and symptoms may be associated with nerve compression (3,9).

The aim of this paper is to illustrate our experience on five consecutive patients affected by submandibular gland Schwannoma, arising from submandibular branch of lingual nerve, in the past six years, from 2011 to early 2018.

Report

In Maxillo-Facial surgery department of St. Andrea Hospital of Rome second Faculty of Medicine and Surgery of La Sapienza University, we have treated 5 cases of Schwannoma of submandibular gland arising from submandibular branch of lingual nerve. Patients were 3 females and 2 males with a main age of 49,2 y.o., in all of them clinical examination revealed a firm mass, having hard consistency. In all cases clinical manoeuvres elicited a slight pain. As reported by patients the presence of such swelling was first noticed between 3 – 4 years before.

As observed with MNR the diameter of the mass was in a range of 12.3 mm and 13.5 mm and in all cases it had a vascularised aspect. In all patients masses were located in the area of submandibular gland and appeared on MNR (T2 weight) like a hyperintense oval structure, linked with the gland but having a clear cleavage from surrounding tissues.

In all cases the treatment was based on cervicotomy and smooth dissection. Following standard procedure, the submandibular gland was exposed. In all cases masses were found to be in contact with submandibular gland capsula at its lower side and appeared like homogeneous, gray-pink, regular spheric shaped structures.

Following dissection towards a cleavage plan, neoformations were gently removed from surrounding glands which had normal morphologies. After hemostasis was secured, drainage was inserted and finally suture was carried out. Patients were dismissed on fourth post-operative day with antibiotic therapy. In all cases histology diagnosed benign Schwannomas of peripheral structures of submandibular gland, completely excised. Clinical and radiographic follow-up, which is still ongoing in two cases, has not revealed any complication.

Discussion and conclusions

Most of the head and neck tumors of neurogenous derivation, originate from Schwann cells (9, 10). S. are solitary neoplasms of Schwann cells, having a slow growth rate. In the head and neck region they occur most commonly in the internal acoustic meatus. Schwannomas of the submandibular glands are extremely rare.

In 1971, Sodgar published the first case report of a schwannoma of submandibular gland (11) since then, only nine cases have been sporadically described (11-18). Most of those past contributions reported experiences with benign schwannomas, whereas malignant S. was referred in one case only.

Head and neck S. are uncommon tumors that may affect any peripheral, cranial, or autonomic nerve and therefore location, clinical presentation, and outcome after surgical resection can vary. History, physical examination and magnetic resonance imaging are used as diagnostic tools (19), but differential diagnosis still remains extremely difficult due to the scarce frequency of such neoplasms (23) and scarce specific symptomatology. Patients of our report, referred only a slight sense of compression in the submandibular area, slow growing swelling and pain elicited during clinical manoeuvres. Since long-term follow-up of S. shows a low risk of recurrence after a complete surgical removal (20, 21), in case of suspected S. wide excision seems not recommended. In the case of our analysis, the masses were found to be external to the lower aspect of submandibular gland and separated from the remaining capsula with a well structured cleavage. In consideration of this, as the salivary gland showed a normal morphology, the whole submandibular gland was not included in the excision.

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