Schwannoma (Neurilemmoma) of the Submandibular Gland

Giuliano Ascani*, Paolo Mancini1, Pasqualino Cargini1, Michele Romano1, Noemi Mazzone1 and Giada Albani2

1Department of Maxillofacial Surgery, Spirito Santo Hospital, Pescara, Italy
2Resident in Maxillofacial Surgery, Federico II University, Naples, Italy

ABSTRACT

Schwannomas (neurilemmomas) are infrequent, benign mesenchymal neoplasms that pose considerable preoperative diagnostic difficulties. Schwannomas of the submaxillary gland are even less common, with only few cases reported in the literature to date. The present study describes a male with a right submaxillary tumor for the past 9 years; the histopathological study diagnosed schwannoma - no preoperative evaluation having been able to establish the diagnosis.

Case Report

A 52-year-old male without antecedents of interest or toxic habits presented with a painless tumor for the past 9 years. Combined oral and cervical exploration revealed a firm, stony hard mobile growth in the right submandibular region, measuring about 3 cm in major diameter.

The patient referred no symptoms compatible with prior episodes of submaxillitis, and no neurological manifestations. Salivary secretion from the duct of Wharton was normal in both amount and appearance, with no evidence of calculi upon palpation. There were no neck adenopathies or primary oropharyngeal process to account for the presence of the tumor. The overlying skin showed no signs of inflammation. Fine needle aspiration cytology and a computed tomography study were requested.

The tentative clinical diagnosis centered on two possibilities: a pleomorphic adenoma of the submaxillary gland or a Küttner tumor. The fine needle aspiration biopsy discarded a malignant process but was unable to establish a diagnosis. Computed tomography in turn showed a dense tumor measuring approximately 4 cm in diameter in relation to the deepest portion of the submaxillary gland (Figure 1). Tuberculin and blood tests afforded no significant data. The mass was removed under general anesthesia; during the operation a hard and well encapsulated, grayish tumor (Figure 2) was observed located anterior to the posterior belly of the digastic muscle, in relation to the anterior portion of the gland. The lingual and greater hypoglossal nerves were dissected and found to be fully independent of the tumor. The definitive histological diagnosis was schwannoma of the submaxillary gland. There were no postoperative neurological alterations, and no tumor recurrence one year after surgery.

*Correspondence to: Giuliano Ascani, M.D., Head of Department of Maxillofacial Surgery, Spirito Santo Hospital Via Fonte Romana 8, 65123 Pescara, Italy; Tel: 00393290647802; E-mail: giulianoascani@gmail.com

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Diagnostic confusion centers on pleomorphic 

...cases have been reported in relation to the X, XII and VII cranial nerves, though most tumors in this region are associated with the cervical plexus. In turn, some neurological manifestations were discarded by the exploratory findings or other studies. The topographic location of the lesion and/or clinically manifest neurological defects provide the only clinical clues to the nerve from which the neoplasm originates. When as in most cases no such neurological manifestations are observed, the location of the tumor and the echographic, computed tomography and/or magnetic resonance findings inform of the origin of the growth, which in any case must be confirmed at surgery. In our patient both the location of the tumor and the computed tomography findings suggested an intraglandular neoplasm.

Simple surgical excision is the treatment approach advocated by most authors [1, 2, 4, 10]. When an intimate relation between the tumor and a given cranial nerve is identified (particularly the facial nerve), a number of management approaches may be evaluated. In this sense, some authors advise incomplete excision of the tumor, to avoid damaging the nerve of origin [1, 6, 13], while others recommend removal of the affected portion of the nerve followed by immediate reconstruction with direct microsuture techniques or autologous sural nerve grafting [3, 17]. The radioresistance of the tumor is a contraindication to radiotherapy [3].

Most studies in the literature report the absence of postoperative recurrences, even in the event of subtotal resections. Sporadic recurrences have been reported in some series, however [1, 9]. Similarly, most large series consider malignant transformation of schwannomas to be highly unlikely - though the possibility of malignant transformation has been reported, particularly in recurrent neurilemmomas [1, 9, 18].

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Conflicts of Interest

None.

REFERENCES

1. Enzinger FM, Weiss SW (1995) Soft tissue tumors (III ed.). St Louis: Mosby 829-843.
2. Thawley SE, Panje WR, Batsakis JG, Lindberg RD (1989) Comprehensive management of head and neck tumors. Philadelphia: WB Saunders Co 1253-1257.
3. Bradley M, Bowerman JE (1989) Parapharyngeal neurilemmomas. Br J Oral Maxillofac Surg 27: 139-146. [Crossref]
4. Sharma P, Zaheer S, Goyal S, Ahluwalia C, Goyal A et al. (2019) Clinicopathological analysis of extracranial head and neck schwannoma: A case series. J Cancer Res Ther 15: 659‐664. [Crossref]
5. Ma’am S, Leiman G (1989) Benign neurilemmoma (schwannoma) masquerading as a pleomorphic adenoma of the submandibular gland. Acta Cytol 33: 907-910. [Crossref]
6. Bochlogyros PN, Kanakis P, Tsikou-Papafrangou N, Chase D (1992) A large, painless mass in the submandibular space. J Oral Maxillofac Surg 50: 1213-1216. [Crossref]
7. Mc Daniel RK (1991) Benign mesenchymal neoplasms. In: Ellis GL, Auclair PL, Gnep DR. Surgical pathology of the salivary glands. Philadelphia: WB Saunders Co 489-513.
8. Lucas RB (1984) Pathology of tumors of the oral tissue (IV ed.). New York: Churchill Livingstone 213-225.
9. Kun Z, Dao-Yi Q, Kui-Hua Z (1993) A comparison between the clinical behavior of neurilemmomas in the neck and oral and maxillofacial region. J Oral Maxillofac Surg 51: 769-771. [Crossref]
10. Williams HK, Canel H, Silvester K, Williams DM (1993) Neurilemmoma of the head and neck. Br J Oral Maxillofac Surg 31: 32-35. [Crossref]
11. Satish Kumar Ranjan, Mini Sinha, Anmisha Sharan, Vishnu Singh Munda, Preeti Usha et al. (2016) Schwannoma of the Submandibular Gland: A Rare Case Report. J Clin Diagn Res 10: PD23-PD24. [Crossref]
12. Bansal V, Aggarwal P, Wadhwan V, Bansal A, Kapoor S et al. (2017) Giant Solitary Schwannoma of Submandibular Salivary Gland-A Rare Entity. J Maxillofac Oral Surg 16: 382-386. [Crossref]
13. Ascani G, Junquera L, Rodriguez-Recio O, Gonzalez F (2003) Asymptomatic submandibular mass. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 95: 529-32. [Crossref]
14. Patel M, Srinivasan B, Sharma S (2015) The diagnostic dilemma of a parasympathetic schwannoma in the submandibular gland. Ann R Coll Surg Engl 97: e13‐e14. [Crossref]
15. Elahi MM, Audet N, Rochon L, Black MJ (1995) Intraparotid facial nerve schwannoma. J Otolaryngol 24: 364-367. [Crossref]
16. Zbieranowski Y, Bedard YC (1989) Fine needle aspiration of schwannomas. Value of electron microscopy and immunocytochemistry in the preoperative diagnosis. Acta Cytol 33: 381-384. [Crossref]
17. F Malpuech, JM Gueroult, JF Collin, S Bony, S Rerolle et al. (1996) Schwannome de la région parotidienne. A propos d'un cas clinique. Rev Stomatol Chir Maxillofac 97: 22-25. [Crossref]
18. Carstens PH, Schrott GR (1969) Malignant trasformation of a benign encapsulated neurilemmoma. Am J Clin Pathol 51: 144-149. [Crossref]