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Case Report
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Intra Osseous Schwannoma of Inferior Alveolar Nerve: A Case Report

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Abstract

Schwannoma, a benign nerve sheath tumor is relatively rare in occurrence and their intraosseous location is even rarer counting for less than 1% of all benign primary bone tumors. In this report, we present a case of intramandibular schwannoma arising from the inferior alveolar nerve in a 60-year-old woman who presented with mandibular pain and right lower lip paresthesia evolving for seven months. The panoramic X-ray revealed a well-circumscribed and homogeneously radiolucent image. Treatment involved complete excision of the tumor while preserving the nerve bundles. The lesion was examined histopathologically and a final diagnosis of schwannoma arising from the inferior alveolar nerve was made. The patient regained normal sensory function six months after the operation at a two-year follow-up after surgery, there was no evidence of tumor recurrence. The aim of this report is to add information to the existing sparse literature on intraosseous schwannomas of the jaw.

Keywords: Mandible; Schwannoma; Intraosseous

Introduction

Schwannomas are benign nerve tumors that arise from Schwann cells, which are of ectodermal origin. They can arise from any part of a myelinated nerve. Nearly half of them occur in the head or neck [1,2]. However, intraosseous schwannoma is extremely rare in jaw bones and represent less than 1% of benign primary tumors of the jaw. When they do occur in the jaw, they develop from the alveolar nerve and are typically slow growing, causing few symptoms until they reach a significant size or cause sensory issues [1,3].

In this report, we describe a case of a patient with a mandibular intraosseous schwannoma. The tumor was managed surgically, and the patient experienced a successful outcome. The presentation and management of this case provide insight into the diagnosis and treatment of these rare tumors.

Case Presentation

We present the case of a 60-year-old woman who presented with crippling pain in the right hemimandible, resembling electric shocks, and inferior alveolar nerve paresthesia's that had progressed for seven months without improvement under medical treatment. On extraoral examination, no mass was noted, but Vincent's sign was positive. Intraoral examination revealed a small, painless vestibular mass on the right mandible covered with healthy-appearing mucosa (Figure 1a, 1b). An orthopantomogram revealed a homogeneous radiolucent image, well delimited by a clear wall of condensation on the left horizontal branch during the mandibular canal. The lesion was excised under general anesthesia, with preservation of the inferior alveolar neurovascular pedicle. Histological examination confirmed the diagnosis of schwannoma, with tissue showing areas of moderate cell proliferation interspersed with predominantly lymphocyte tissue within a fibro-hyaline envelope. Antoni A areas were predominant, consisting of spindle-shaped and bipolar, epithelioid, well-organized cells grouped in parallel, arranged in clusters, with a compact palisade-like arrangement of nuclei in collagen-rich connective tissue. These zones sometimes alternate with the Antoni B zones.

After surgery, the patient presented with right labiomental paresthesia, which was treated with vitamin supplementation. During the two-year follow-up after the operation, no recurrence was observed. This case highlights the rarity of mandibular schwannoma and the importance of careful dissection and preservation of nerve function during surgical excision.

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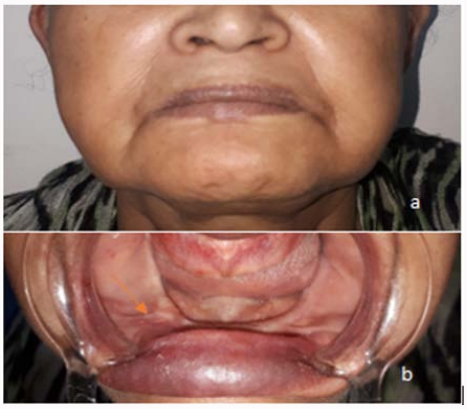

Figure 1: a): Extraoral examination, no mass was noted. **b**): Intraoral examination revealed a small painless right vestibular mass covered by healthy-appearing mucosa.

Discussion

Schwannoma also known as neurinoma or neurilemmoma is a benign nerve sheath tumor. Intraoral schwannomas are rare and intrabony occurrence is even rarer [3]. Schwannomas are uncommon in the oral cavity, but when they occur, they are most often found on the tongue [2].

These tumors typically present in individuals in their fourth and fifth decades of life, with more occurrences in females than males. While they typically grow slowly and are asymptomatic, they can cause functional or aesthetic issues in rare cases [2,4].

Radiographic diagnosis alone can be challenging due to the shared imaging characteristics of intraosseous schwannomas with other lesions such as odontogenic cysts, intraosseous angiomas, eosinophilic granulomas, and ameloblastomas [5]. Therefore, a definitive diagnosis can only be made through pathological examination. Intraosseous schwannomas are characterized by two distinct cell populations, Antoni A and Antoni B [6].

Finally, the prognosis for patients with schwannomas is generally good, with recurrence and malignant transformation being rare occurrences. Conservative surgical removal is the treatment of choice for these tumors, with preservation of the nerve during the procedure being crucial [7]. While radiotherapy is not effective against intraosseous schwannomas, other forms of treatment such as chemotherapy and immunotherapy may be investigated in the future [8]. In summary, although schwannomas are rare in the oral cavity, they should be included in the differential diagnosis of intraosseous lesions, and a definitive diagnosis can only be made through pathological examination. Conservative surgical removal is the recommended treatment, with preservation of nerve function being a top priority [2,9].

Conclusion

Certainly, reported cases of mandibular schwannoma are uncommon, and their diagnosis requires a comprehensive approach involving patient history, clinical examination, imaging, and pathological examination. Surgical resection is the preferred treatment option, with a focus on preserving nerve function when feasible.

Intraosseous schwannoma although extremely rare, and their diagnosis requires knowledge of the radiological and histopathological clinical features for appropriate management. Surgical resection is the preferred treatment option, with an emphasis on preserving nerve function when possible.

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