

Case report

Intra-osseous Schwannoma of Mandibular Symphysis: A rare case presentation

ABSTRACT:

Aim: To describe a rare presentation of intra-osseous schwannoma of mandible.

Presentation of Case: a rare representation of diffuse non-tender swelling at parasymphysis of mandible with bicortical expansion and negative aspiration on FNAC. A complete wide surgical enucleation of soft, doughy mass was done through intra-oral papilla preserving flap followed by suitable dissection preserving the vital nerves and vessels in the vicinity was done. Histopathologically the tissue tumor mass arranged in Antoni A pattern showing Verocay bodies formed by streaming fascicles of spindle shaped schwann cells forming palisaded arrangement around central acellular, eosinophilic areas.

Discussion : Schwannoma is a typical histopathological finding with typical histological features of schwannomas include Antoni A areas, Antoni B areas, or both. Antoni A regions have high cellularity and are composed of densely packed spindle cells arranged in palisades. On the other hand, Antoni B regions have more myxoid structures and two palisading rows of aligned nuclei in an eosinophil zone.

Conclusion : Intraosseous lesions located in the peripheral region with non-specific clinical and radiographic features often lead to diagnostic confusion. Most of the lesions located in the environs of the teeth are odontogenic in origin. Yet, other possibilities like intaosseous scwhannomas must be considered.

Keywords : Intra-osseous , Schwannoma, Mandible.

INTRODUCTION

Schwannomas (neurilemmomas) are slow-growing, benign neoplasms derived from Schwann cells, the sheath cells that cover myelinated nerve fibers. These tumors most commonly arise in the soft tissues of the head and neck, as well as on the flexor surfaces of the upper and lower extremities. Intraoral lesions are uncommon, however, and intraosseous schwannomas, are even rarer.¹ The most common site of occurrence is the mandible, a characteristic traditionally attributed to the long intraosseous path of the inferior alveolar nerve². Other sites reported include the sacrum, vertebra, skull, maxilla, clavicle, scapula, sternum, ribs, humerus, radius, ulna, ilium, pubic bone, femur, patella, fibula, tibia, and bones of the hands and feet.³

CASE REPORT

A 32-year-old reported to the unit of Oral and Maxillofacial Surgery at IGIMS Patna with a slowly growing swelling on the left side of lower jaw since 6 months (Figure 1). On examination, a diffuse swelling was observed on the left side of chin, above the base of the mandible extending to the left submandibular region with normal overlying skin approx of 3*4 cm. The swelling was firm in consistency, non pulsatile, non - tender, non – fluctuant without any localized rise in temperature. Intraoral examination revealed bicortical expansion of the alveolar ridge in the same region with obvious vestibular obliteration. A panoramic radiograph revealed a well-circumscribed, unilocular radiolucent lesion. Nothing could be aspirated on FNAC trial.

A complete wide surgical enucleation of soft, doughy mass was done through intra-oral papilla preserving flap followed by suitable dissection preserving the vital nerves and vessels in the vicinity was done (Figure 2). The specimen was sent for histopathological examination (Figure 3).

Histopathologically the tissue tumor mass arranged in Antoni A pattern showing Verocay bodies formed by streaming fascicles of spindle shaped schwann cells forming palisaded arrangement around central acellular, eosinophilic areas. (Figure 4)

DISCUSSION

In 1985, Erlandson classified schwannomas into several histological types⁴. Clinicopathological schwannoma variants, including common, plexiform, cellular, epithelioid, and ancient. Intraoral ancient schwannomas are rare (prevalence rate: 1%), with the majority of the tumours prevalent on the tongue, followed by other locations including the palate, buccal mucosa, lips, and gingiva⁵. Typical histological features of schwannomas include Antoni A areas, Antoni B areas, or both. Antoni A regions have high cellularity and are composed of densely packed spindle cells arranged in palisades. On the other hand, Antoni B regions have more myxoid structures and two palisading rows of aligned nuclei in an eosinophil zone⁶.

Embryologically, Schwann cells arise during the fourth week of development from a specialized population of ectomesenchymal cells derived from neural crest. These cells serve as thin barrier around each extracranial nerve fiber of motor and sensory nerves and wrap larger fibers with myelin sheath to enhance nerve conductance⁷. Schwannomas commonly arise from spinal nerve roots and intracranial nerves of the face, neck, extremities, mediastinum, and pelvis⁸. Most commonly affected nerve is the VIII cranial nerve (acoustic neuromas). Additionally, hemorrhage from adjacent tissue, necrosis, hyalinization, and cystic degeneration may also occur in the tumor tissue⁹. The main clinical differential diagnoses consisting of other benign neoplasms at this site include neurofibroma, traumatic neuroma, nonossifying fibroma, lipoma, and leiomyoma¹⁰. The schwannomas may be indistinguishable from other benign tumors, so biopsy and histological examination are essential.

CONCLUSION

Though schwannoma of the Head and neck region are rare, they should be considered as a differential diagnosis of unilateral slow growing mass in the head and neck region, particularly in an adult. Intraosseous lesions located in the peripheral region with non-specific clinical and radiographic features often lead to diagnostic confusion. Most of the lesions located in the environs of the teeth are odontogenic in origin. Yet, other possibilities like intraosseous schwannomas must be considered.

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Figure 1: Diffuse swelling on the left side of chin, above the base of the mandible extending to the left submandibular region with normal overlying skin.



Figure 2: Wide surgical enucleation of soft, doughy mass was done through intra-oral papilla preserving flap followed by suitable dissection preserving the vital nerves and vessels in the vicinity



Figure 3: The specimen sent for histopathological examination

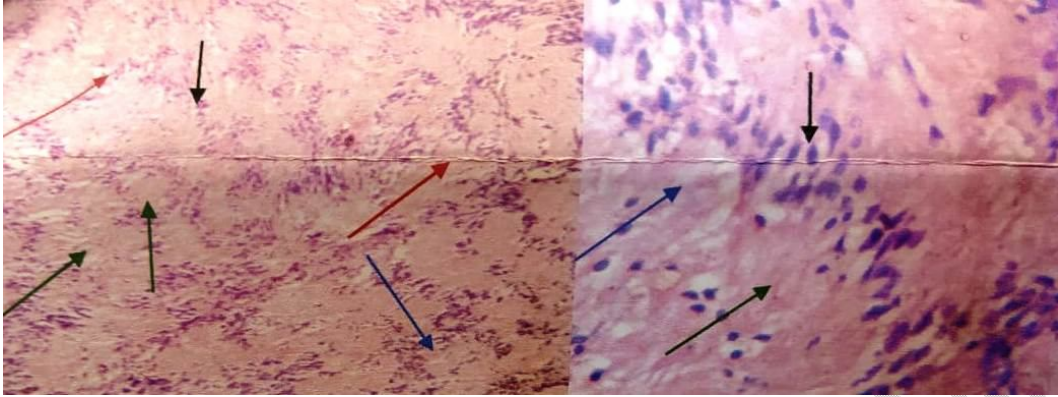


Figure 4 Antoni A pattern (RED), with Verocay Bodies(Green), Palisaded nuclei (Black)and Schwann cells(Blue)

UNDER PEER REVIEW