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Oral neurofibroma: A case report

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Abstract
Neurofibroma is a benign, slow growing nerve sheath neoplasm of heterogeneous origin and usually painless. Oral cavity neurofibroma is a rare entity. We report a case of a 16-year-old male who had history of a slow growing swelling on right side of mouth. 3D CT revealed 2.3x 1.1x 1.3 cm sized a hyperdense lesion arising from inferior alveolar arch of mandible on right side. Surgical excision of lesion was done and diagnosis of solitary oral neurofibroma of the mandible was confirmed by histopathology.

Keywords: Oral, neurofibroma, neoplasm, histopathology, diagnosis

Introduction
Neurofibroma is a benign, slow growing, pedunculated or sessile nerve sheath neoplasm of heterogeneous origin. Oral neurofibromas may present either as solitary lesions or as part of generalised syndrome von Recklinghausen's disease (VRD) [1, 2, 3, 4, 5, 6]. First description of solitary neurofibroma of oral cavity in 1954 by Bruce and since then only few cases have been reported in literature [7, 8, 9]. They are usually painless, but pain or paraesthesia may occur due to nerve compression. Frequent sites include tongue, palate, buccal mucosa, gingival surface, floor of mouth and major salivary glands whereas intraosseous neurofibromas of mandible are rare. No gender predilection is reported [1, 10, 11, 12, 13]. The definitive diagnosis is due to histological examination. Treatment of choice is surgical excision. Malignant transformation and recurrence of solitary neurofibroma is extremely rare, hence prognosis is quite excellent [1, 14].

Case History: A 16-year-old apparently healthy male, weighing 43kgs, presented to our hospital with a chief complaint of swelling on right side of floor of mouth under the tongue. He and his relatives gave a history of a slow-growing swelling for 12 months. No other symptoms were reported before the onset of the swelling. There was no history of trauma, spontaneous bleeding, substance abuse. He did not complain of dyspnoea, swallowing difficulties, mastication, or phonation deficits. Patient had no history of major illness, surgery or allergy. Clinical examination revealed an exophytic diffuse swelling in the oral cavity extending all along the lingual aspect of the right mandible. Swelling was soft to firm in consistency. [Fig. 1] Airway and systemic examination were normal. His routine blood examination findings were within normal limits. A 3D CT mandible revealed a 2.3x 1.1x 1.3 cm sized well defined mildly expansile hyperdense lesion with ground glass matrix arising from the inner cortex of inferior alveolar arch of the mandible on the right side. [Fig. 2] Surgical excision of the lesion under general anaesthesia with nasotracheal intubation was planned. [Fig. 3] The peri-operative course was uneventful, and patient was discharged on second post-op day. Subsequent follow-up did not reveal taste or sensitivity disturbances. Histopathology sections showed spindle cell proliferation with wavy nuclei in a dense fibrous connective tissue core. Pathological diagnosis was a neurofibroma with no signs of malignancy. There was no recurrence of the excised lesion or any new lesion and no other clinical manifestations developed in patient or his relatives related to NF-1. Based on this, we ruled out syndromic neurofibromatosis and no genetic studies were carried out.

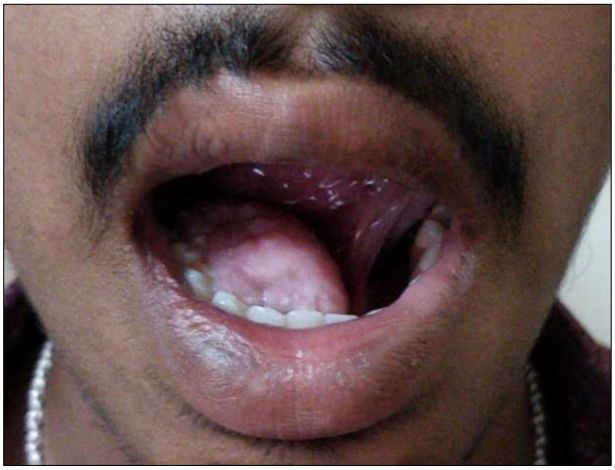

Fig 1: Swelling was soft to firm in consistency

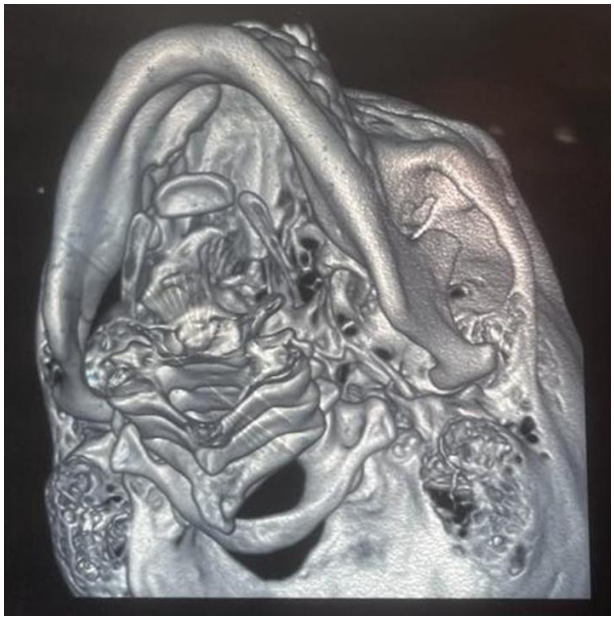

Fig 2: Surgical excision of the lesion under general anaesthesia with nasotracheal intubation was planned

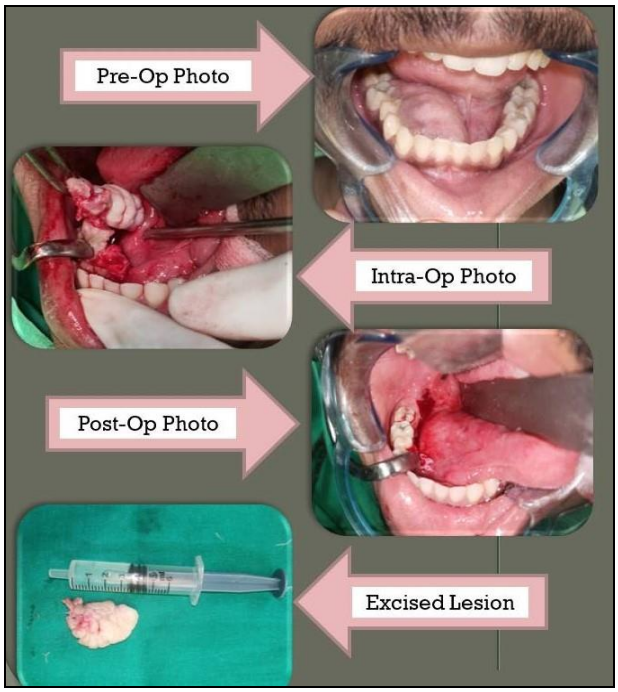

Fig 3: The peri-operative course was uneventful, and patient was discharged on second post-op day.

Discussion

Neurofibroma, the slow growing nerve sheath tumour is one of the most common neurogenic tumours, but is an uncommon intraoral tumour. Neurofibromas can be multiple or solitary. Most frequent location is the skin and is highly associated with von Recklinghausen's disease. In the oral cavity, neurofibroma occurs on the tongue, lip, palate, gingiva, salivary glands, and the jawbones [1, 2, 3]. 12 13 ref It is important to distinguish between solitary ones and those associated with NF-1 because the treatment and prognosis differs as those associated with NF-1 are more likely to recur or undergo malignant transformation [1, 8].

These mainly appear in third decade of life although occurrence between 10 months and 70 years old has been described and with no sex preledictiion. Neurofibromas have no correlation with immunocompromising diseases [2, 3].

Our case is unique as the lesion is sporadic, solitary in a young male and without any family history. A thorough clinical examination of the patient ruled out NF-1. The macroscopic appearance is characterized by a whitish consistent mass with shiny surface [15]. Surgical excision is the standard treatment. In some cases, complete excision may sacrifice the cranial nerves, leading to significant functional or cosmetic deformity. Care should be taken not to damage these nerves and Wharton's duct. The intraoral approach is a better treatment for lesions measuring less than 60 mm, as we did in our case whereas cervical incision is an option when tumour is bigger and protrudes from mylohyoid muscle though it leaves a visible scar on the neck. Surgical excision of the lesion was done and patient was kept under follow up for clinical manifestations of NF-1. Microscopically tumour is composed of proliferation of spindle cells and stroma of collagen fibres and mucoid masses the same as was revealed in our histopathology report [2]. Thus, oral neurofibroma is locally aggressive and rarely shows recurrence or malignant transformation. Hence, the differential diagnosis of neurofibroma should be considered by every dentist and referred to a specialist if required.

Conclusion

Neurofibromas in the oral cavity, particularly solitary cases like the one presented, are rare but clinically significant. They typically manifest as painless swellings and can be successfully treated through surgical excision, with an excellent prognosis for recovery. Distinguishing between solitary neurofibromas and those associated with syndromes like von Recklinghausen's disease (NF-1) is crucial due to differences in recurrence and malignant transformation rates. Our case study underscores the importance of thorough clinical examination, histological analysis, and appropriate treatment planning to ensure optimal outcomes and rule out syndromic implications. Dentists and healthcare providers should maintain a high index of suspicion for neurofibromas, especially in young patients with oral cavity swellings, for timely diagnosis and management.

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Not available

Author's Contribution

Not available

Conflict of Interest

Not available

Financial Support
Not available

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