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CASE STUDY

INTRA ORAL JUNCTIONAL NEVI: A RARE CASE PRESENTATION WITH REVIEW

[1,*]Dr. Anitha Raghunathan, [2]Dr. Divya Raghunathan and [3]Dr. Poongodi, V.

[1,3]Senior Lecturer, Department of Oral Medicine and Radiology,
Meenakshi Ammal Dental College and Hospital, Chennai, Tamil Nadu 600095
[2]Post Graduate Student, Department of Public Health Dentistry, Meenakshi Ammal Dental College and Hospital, Chennai, Tamil Nadu 600095

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ABSTRACT

Aim: The aim of this case report is to enlighten about an intra oral lesion that had a clinically challenging presentation, which highlights the importance of the differential diagnosis of oral pigmented lesions. **Background:** Melanocytic nevus is the accumulation of melanocytes predominantly in the dermo-epidermal junction. They are often quite darkly pigmented, mostly macular or very thinly papular with minimal elevation above the skin. They are an acquired lesion and may change characteristic to that of a compound nevus. Though they are benign lesions, they have the potential to transform into malignant lesion. **Case description:** The following is a case report of a 29 year old female patient who reported with an irregular pigmented growth, which had a slight exaggerated appearance in an unusual site, and on excision proved to be a junctional nevus. **Conclusion:** Proper visual examination is always necessary as it may reveal pathological cases which are left unnoticed by patients. **Clinical significance:** As a dental professional, it is important for us to recognise the common as well as rare lesions of the oral cavity to list down a differential diagnosis for a proper investigatory and treatment modality.

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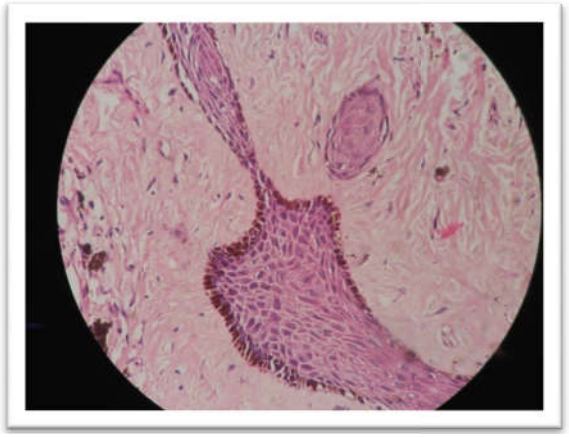
INTRODUCTION

Melanotic nevi of the oral mucosa are benign melanocytic tumours originating from defective melanoblasts of the neural crest and causes focal oral pigmentation. Although nevi are common lesions that are seen on the skin in the large majority of the population, they are rare intraorally (Beena *et al*., 2010). Because of their rarity, dermato-pathologists are not really familiar with them. Moreover, the ratio between oral nevi and oral melanomas is much more well-balanced than in the skin and hence the differential diagnosis should be discussed virtually in every single case (Abe *et al*., 1989). Junctional nevi are a form of melanocytic nevi (or mole) where the accumulation of melanocytes is located predominantly at the dermoepidermal junction, hence their name. Junctional naevi are often quite darkly pigmented and are macular or very thinly papular with only minimal elevation above the level of the skin. They are an acquired lesion and as they age they can change their characteristics to that of a compound naevus, where there are accumulations of melanocytes in the dermis and at the dermo-epidermal junction, which cause the lesion to become increasingly popular (Liang *et al*., 2015).We hereby came across one rare, intra orally presented junctional nevus, which was clinically and pathologically a diagnostic challenge.

Corresponding author: **Dr. Anitha Raghunathan**

Case description: A 29 year old female presented with a chief complaint of a growth in her lower front teeth region for the past 10 years. She gave history of growth since 10 years (when she first noticed) which had been in the same size since then. However her concern was unesthetic appearance of it and interference of that growth during chewing food and during brushing teeth. On clinical examination, there was presence of an oval shaped, pedunculated, nodular, greyish black growth below the marginal gingiva region of lower left canine and premolar region, which measured approximately 1x1.5 cm in dimension. The surface of the growth was irregular and the labial mucosa of lower left premolar and molar regions were hyper pigmented. On palpation, the growth was non tender and attached to the underlying mucosa along its superior aspect. It was firm in consistency, nodular, with no other secondary changes. Based on the presentation of a focal, raised, pigmented growth provisionally a diagnosis of Fibroma was given, however a differential diagnosis of melanocytic nevus, localised gingival hyperplasia and malignant melanoma were considered. Further, the growth was excised and sent for histo-pathological examination which revealed cluster of nevus cells in the epithelium-connective tissue junction and in the underlying lamina propria and submucosa, multiple melanocytes in junctional nests, with a clear cytoplasm and basophilic nuclei, elongated rete ridges with a lentiginous

Fig. 1. Intraoral picture of the growth



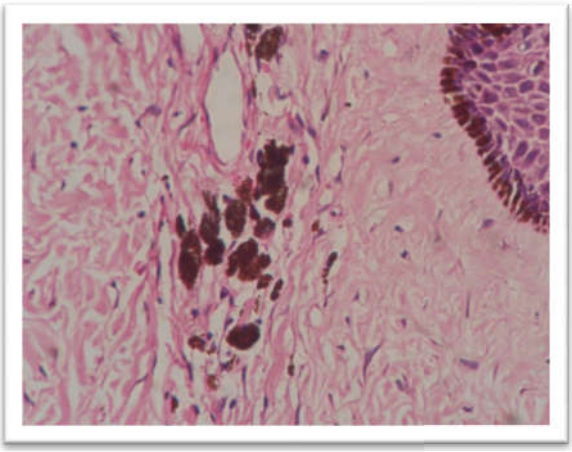


Fig. 2. Excised Specimen

resemblance whose features were suggestive of Junctional nevus. The patient is under close follow up and there is no other significant change in the oral mucosa.

Diagnosis of pigmented lesions of the oral cavity and perioral tissues is challenging (Beena *et al.,* 2010). Oral melanocytic nevi are benign tumours of melanocytes, the pigment producing cells found in the skin and in juxtacutaneous mucous membranes, including the oral mucosa (Grichnik *et al*., 2005; Surej Kumar and Varun Menon, 2013). While cutaneous melanocytic nevi of young adult Caucasians are in the dozens, Oral melanocytic nevi are rare, and their etiology and pathogenesis are poorly understood (MacKie *et al*., 1985; Buchner and Merrel, 2004; Surej Kumar and Varun Menon, 2013). Only 5% of oral nevi are junctional and their appearance seems to be restricted to the first four decades of life. A "junctional nevus" in an elderly patientis probably a melanoma in situ and even in a young adult the diagnosis should be cautious, especially if the lesion has not been entirely removed (Massi and Leboit, 2004). Unlike ephelides and melanotic macules, which result from an increase in melanin pigment synthesis, nevi arise as a consequence of melanocytic growth and proliferation. In the oral cavity, the intramucosal nevus is most frequently observed, followed by the common blue Nevus. Compound nevi are less common, and the junctional nevus and combined nevus (a nevus composed of two different cell types) are infrequently identified (Mooi and Kraus, 1991). The clinical morphology is irregular and basically indistinguishable from that of melanoma; however, the size of the lesion is small, as a rule around 0,5centimeters, and the diameter very rarely reaches one centimeter (Massi and Leboit, 2004). Regarding morphogenesis, the melanocytic proliferation can be divided into 3 phases

1. Proliferation of benign neoplastic melanocytes along the epithelial mesenchymal junction (Junctional nevus);
2. Migration of these cells into the mesenchymal compartment (compound nevi); and
3. Loss of the junctional component of the nevus, so that all remaining nevomelanocytes are located within the subepithelial compartment (subepithelial nevi) (Surej Kumar and Varun Menon, 2013; Fitzpatrick and Breatnach, 1963; Mooi and Kraus, 1991).

We should distinguish it from other similar pigmented macules that affect the skin

- Freckles (ephelides) are usually multiple, small and darken after sunlight exposure.
- Café-au-lait spots are usually larger, lighter in pigmentation and have very distinct borders.
- Lentigines are small, sharply circumscribed and pigmented, surrounded by normal-appearing skin and tend to be multiple, lighter brown and more irregular in shape.
- Melanoma tends to be darker, have an irregular border, be asymmetrical and have recently grown.
- Any lesion that has increased in size,become irregular inshape, changed its colour, become heterogeneous in pigmentation, become inflamed, bled,crusted or oozed suggests a possibility of melanoma and should be assessed by excision biopsy.

Histopathologially the architectural features include elongation of rete ridges with an increase in number of melanocytes. The latter are arranged as single cells or in nests whose long axis

tends to lie parallel to the epidermal surface that tend to form bridges between adjacent rete (Lippincott Williams and Wilkins, 2013). The melanocytes are large and epithelioid with abundant cytoplasm and melanin dusty particles (Lippincott Williams and Wilkins, 2013). Thus histopathogical confirmation is necessary for an accurate diagnosis and treatment planning.

Conclusion

Pigmented lesions of the oral mucosa range from the extremely common and harmless (eg, amalgam tattoo) to the rare and deadly (eg, malignant melanoma). Various pigmented lesions can have similar clinical presentations, posing a diagnostic dilemma for the dentist. Hence visual inspection of the lesion has to be done with caution, as these lesions should not be left unnoticed. Thus knowledge regarding how to diagnose and treat the pigmented lesions empower dental health professionals to apply preventive treatments to avoid future complications

Clinical significance: Dental health professionals should always pay attention to abnormal pigmented lesions occurring in the oral cavity and it is our responsibility to diagnose and treat such lesions to prevent malignant changes.

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