

## The Gingival Mole – Rare Case Report

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### Abstract

### Case Report

Pigmented Nevi are benign tumors of the skin and mucosa characterized by the presence of melanin-producing, neuroectodermal derived nevus cells. Pigmented lesions usually pose an aesthetic concern to the patients and hence a clinical expertise is of utmost requirement for appropriate diagnosis and treatment for improved esthetics and patient satisfaction.

**Keywords:** Intramucosal Nevus, Oral nevus, gingival mole, pigmented Nevi, Nevus cells, Pigmented lesion.

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## INTRODUCTION

“Nevus” (Latin, ‘birthmark’) is a general term that may refer to any congenital lesion of various cell types or tissue types. In the usual context, however, “nevus” refers to the pigmented lesion composed of nevus cells. It is sometimes called, more specifically, nevocellular nevus or melanocytic nevus. Pigmented Nevi are benign tumors of the skin and mucosa characterized by the presence of melanin-producing, neuroectodermal derived nevus cells. In 1943, *Ackermann and Field* have reported the first documented case of an oral nevus. Pigmented nevi are uncommon lesions in the oral cavity and were found in only 0.1% of population in a large survey by King O H *et al.*, 1967. Although nevi are common lesions that are seen on the skin, intraorally they are rare.

The main clinical features are a macule or papule, potentially ranging from brown to black Pigmented lesions or blue. They are usually c, small in size, between 0.1 and 0.6 cm in diameter, elevated, and asymptomatic, twice as common in female as in male which may help in the differential diagnosis with other pigmented lesions. Nevi may be located anywhere in the oral cavity, including the hard palate, the most common site of oral melanoma. The most common intraoral nevi are intramucosal (55%) and blue (32%) nevi, while junctional (5%) and compound (6%) nevi are relatively rare.

Nevi are classified based on their histological features, specifically on the behavior of nevus cells, In the early stages, theques of nevus cells are found only along the basal cell layer of the epithelium, especially at the tips of the rete ridges. Because the lesional cells are found at the junction between the epithelium and the connective tissue, this stage is known as a junctional nevus type where the lesional cells are found at the junction between the epithelium and the connective tissue, this stage is known as a junctional nevus. As the nevus cells proliferate, groups of cells begin to drop off into the underlying dermis or lamina propria. Because cells are now present along the junctional area and within the underlying connective tissue, the lesion then is called a compound nevus. In the later stages, nests of nevus cells are no longer found within the epithelium but are found only within the underlying connective tissue. Because of the connective tissue location of the lesional cells, on the skin this stage is called an intradermal nevus. The intraoral counterpart is called an intramucosal nevus.

Nevi located in the mucous membrane usually pose an aesthetic concern to the patients and in some cases have been identified as having the most potential for malignant transformation. Hence, it should be diagnosed appropriately hence a clinical expertise is of utmost requirement for appropriate diagnosis and treatment for improved esthetics and patient satisfaction (Dutta D *et al.*, 2015), Hence this focuses on

management of diagnosis of oral nevus and appropriate treatment.

**THEORIES OF THE DEVELOPMENT OF ORAL NEVI**

Theories	Pathophysiology
Abtropfung theory	Most widely accepted theory which states that, during the initiation of melanocytic tumor, the nevus cells tend to drift from epidermis to dermis and proliferate.
Dual origin theory	This theory attributes to the dual origin of nevus cells. First, nevus cells present in the basal layer of the epithelium and juxtaepithelial region of the submucosa are thought to originate from melanocytes. Second, the nevus cells present deep in the dermis or submucosa are thought to be derived from nerve cells, precisely Schwann cells.
Hochstringerung theory	This theory states that melanocytes derived from the neural crest tend to migrate upwards from the dermis to the epidermis.

**CASE DISCRPTION**

A 30-year-old female patient reported to the department of periodontology with the Chief Complaint of localized black pigmented swelling since birth with aesthetic concerns in her lower left front teeth region with no history of pain, ulceration, bleeding or overgrowth, and no significant medical history. On inspection a solitary swelling was present on lower left anterior region extending From distal aspect of the 32 to mid-buccal of area of 33 on attached gingiva which is irregular in shape measuring of about 0.6 X 0.6 X 0.5

cm in size. Mucosa over the swelling appeared Greyish white and not associated with any discharge.

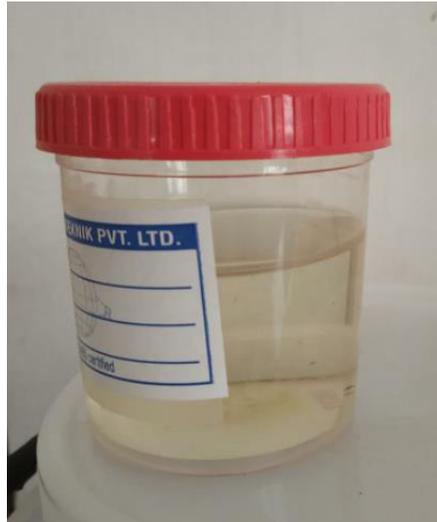
On palpation swelling was smooth with well-defined edges, firm in consistency and non-tender. Differential diagnosis such as fibroma, peripheral ossifying fibroma, peripheral giant cell granuloma and peripheral odontogenic fibroma was given. Under local anesthesia excisional biopsy was performed and mass was sent for histopathological examination.



**Pre-Operative picture**



**Excisional biopsy was done under local anesthesia with No.15 blade**



Excised tissue was carried in the formalin solution as transport medium for histopathological examination

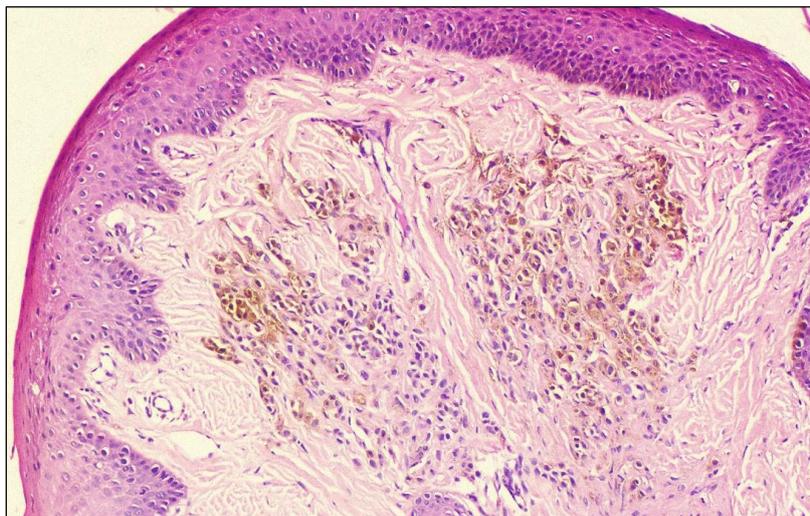


Immediate post-operative following excision of nevus and depigmentation wrt 31, 32

#### HISTOPATHOLOGICAL ANALYSIS

The H & E stain section showed parakeratinised stratified squamous epithelium overlying fibrocellular stroma. The stroma showed numerous clusters of epithelioid cells with abundant of eosinophilic cytoplasm and melanin granules. Round to

oval cells is spread through the stroma which has eosinophilic to amphophilic cytoplasm and pale nucleus. Prominent pigmented cells noted in the stroma, dense collagen fiber bundles with few endothelial lined blood vessels engorged with RBC's suggestive of Intramucosal nevus.





Post-Operative after 3 months follow up

## DISCUSSION

Oral melanocytic nevi are benign tumors of melanocytes. Becker in 1927 first identified melanocytes in the oral epithelium. During early stages of intrauterine life, precursors of melanocytes, i.e. melanoblasts differentiate into the dendritic cells and migrate to the epidermis from the neural crest. Nevus that is thought to originate from melanocytes has hydropic swollen nucleoli that occupy a large portion of nucleus. Buchner and Hansen *et al.*, 1987 reviewed multiple cases of oral nevi and reported the clinical variants as 55% intramucosal type, followed by common blue nevus (32%), compound nevi (6%), junctional nevi (5%), and combined nevi (2%). They also reviewed the percentage of incidence of nevus at various sites of oral cavity i.e, Buccal mucosa 30 Hard palate 24 Gingiva 18 Vermillion border 15 Retromolar pad 7 Labial mucosa 6.

According to Buchner and Hansen's *et al.*, 1990 clinicopathologic analysis of 32 new cases, intraoral nevi were far less frequent than intradermal nevi. They also corroborated earlier findings that among junctional nevi, compound nevi, common blue nevi, intramucosal nevi and the intramucosal nevi were the most prevalent types of nevi.

Although though it is uncommon, the malignant transformation of nevi into melanoma is caused by cell clonal expansion; as a result, melanocyte transformation in an existing nevus must take place prior to the clonal expansion. Because to the rarity of oral nevi and their ambiguous biologic nature, OMNs are only occasionally the precursor of oral cavity melanomas.

Therefore, early diagnosis is of utmost importance and surgical removal of suspected pigmented nevi is recommended because the oral mucosa is under continuous challenges and the junctional variant may undergo malignant transformation Vinaya Kumar & Kranti K 2010.

## CONCLUSION

Various pigmented lesions have similar presentations posing a diagnostic dilemma for the dental surgeon. Hence, a careful diagnostic approach

should be used when confronting pigmented lesions in the oral cavity achieving optimized clinical outcome to meet patient aesthetic and functional demands.

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