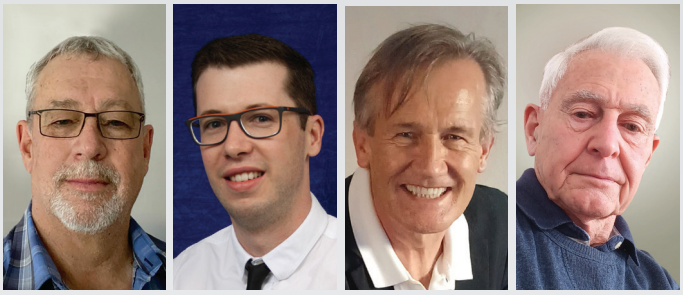
Masterclass in Oral Diseases

Oral Lesions

with

Prof Willie F. P. van Heerden[1]
Dr Liam Robinson[2]
Dr Andre W van Zyl[3]
Prof Wynand P. Dreyer[4]



A clinical guide to pigmented oral lesions

[1] Willie F. P. van Heerden
Professor emeritus, Dept of Oral and Maxillofacial Pathology, University of Pretoria, South Africa:
Pathcare Vermaak Histopathology, Pretoria, South Africa
BChD, MChD, FC Path(SA), PhD, DSc, MASSAf

[2] Liam Robinson
BChD, PDD (Maxillofacial Radiology), PDD (Forensic Odontology), MChD (Oral Path), FC Path (SA) Oral Path. School of Dentistry, Dept of Oral and Maxillofacial Pathology, Faculty of Health Sciences University of Pretoria, South Africa

[3] Andre W. van Zyl
MChD (Oral Medicine & Periodontics)
Private Practice, Hermanus, South Africa

[4]Wynand P. Dreyer
Professor emeritus, Oral Medicine and Periodontics, Stellenbosch University. BDS (Wits), HDD (Wits), PhD (Stellenbosch), FCD(SA)OMP

Introduction

Oral pigmentation is a commonly seen phenomenon and can be due to exogenous implantation of pigmented material such as amalgam (iatrogenic trauma), or endogenous pigmentation due to an increase in melanocytes and/or melanin deposition.

Pigmentation may also be due to oral manifestations of systemic conditions, malignancies, drugs or due to physiological changes.[1-4] Some authors recommend that all oral pigmented lesions should be regarded as oral melanoma until proven otherwise.[5]

Pigmentation or colour of the normal oral mucosa varies from shades of pink to red, depending on various factors such as keratinisation, melanocytes and melanin deposition, blood vessels and the nature/composition of the submucosal tissues. Excessive melanin deposition may be due to underlying physiological or pathological reasons and may be found as single, multiple or diffuse lesions.[6] Haemosiderin pigment linked to previous episodes of haemorrhage is another cause of endogenous pigmentation.

Pigmentation of the oral mucosa may vary from brown, black, blue, or grey depending on the underlying causes. Superficial lesions of melanin may be brown, with deeper lesions appearing dark blue or black.[4]

This Masterclass cannot deal with a topic as complex as oral pigmentation in detail, and we will therefore approach this through providing a clinical guide to oral pigmentation. Oral pigmented lesions are easy to identify and although often difficult to diagnose, should never be ignored.

Pigmented oral lesions are associated with a wide range of conditions, and to achieve a logical approach to the management of this group of lesions, it is important to understand the possible reasons for lesion occurrence.

A brief description will be provided of the most common oral pigmented lesions.

Endogenous pigmentation

Localised lesions

• Malignant melanoma

The most important pigmented lesion is malignant melanoma. In contrast to melanoma of the skin that is UV – related, the aetiology of mucosal melanoma is still unknown. Evaluation of the depth of infiltration in all melanomas is important to predict the prognosis. Early detection is crucial in the outcome of melanomas. Mucosal melanomas start as small pigmented, painless tumours. (Fig 1). Patients with larger lesions (Fig 2), frequently present with metastatic disease. Melanoma may also present without clear pigmentation (Fig 3)

The most common affected oral sites are the palate and maxillary gingiva, although it may be found anywhere in the oral cavity. Most oral melanomas arise de novo but almost 30% are preceded by oral pigmentations of several months or years in duration. This obviously has important management implications.[7]

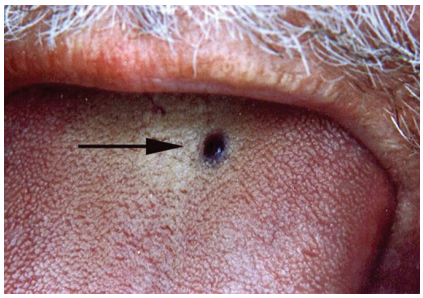


Figure 1: Early melanoma on the tongue dorsum.

Figure 2: Advanced mucosal melanoma of the gingiva.

Figure 3: Oral melanoma without clear pigmentation.

Figure 4: Oral melanotic macule on border of soft/hard palate. The oral melanotic macule is normally a brown to black discreet pigmentation and found in descending order of frequency on lips, gingiva, palate, and the buccal mucosa. This must be biopsied to rule out melanoma.

Figure 5: Blue naevus on the palate.

Figure 6: Symmetrical pigmentation in a patient with physiological pigmentation

• Oral melanotic macule

These are relatively common lesions characterised as well-defined lesions usually found on the lip, gingiva, buccal mucosa, or palate. They are typically less than 6mm in diameter and do not increase in size (Fig 4). These lesions are asymptomatic and result from an increase in melanin production. No treatment is necessary, but a biopsy is often indicated to confirm the diagnosis and rule out an early mucosal melanoma.

• Pigmented naevi

These are benign tumours of melanocytes and are rare in the oral cavity. The palate, buccal mucosa and lips are most affected. Different clinical types of oral naevi are found like on the skin, although the blue naevus is more commonly found in the oral cavity compared to the skin (Fig 5). There is no proof that oral naevi are markers of the development of malignant melanoma, but they should be biopsied as it is difficult to distinguish them clinically from an early melanoma.

Diffuse lesions

• Physiologic pigmentation

This is more frequently observed in dark skin populations and is characterised by diffuse and symmetrical pigmentations (Fig 6). The gingiva, buccal mucosa and tongue are the most frequently involved sites. No treatment is required, and the diagnosis can be made on clinical grounds. Treatment options for aesthetic reasons are available.

• Post inflammatory pigmentation

This is also referred to as pigment incontinence. This is frequently seen in chronic inflammatory conditions such as lichen planus. It is caused by melanin pigment that is displaced due to basal cell degeneration as seen in lichen planus (Fig 7). This pigment is phagocytosed in the lamina propria. It is more frequently seen in dark skinned individuals. No treatment is necessary.

• Addison's disease

This is caused by bilateral destruction of the adrenal cortices leading to increased production of adrenocorticotropic hormone (ACTH), secondary to a decrease in cortisol secretion. Patients present with bronzing of the skin and oral pigmentations involving the cheek, tongue, and gingiva (Fig 8).

Figure 7: Patients with lichen planus with post inflammatory pigmentation.

Figure 8: Pigmentation on the tongue in a patient with Addison's disease.

Figure 9: Pigmented lesions on the lower lip following minocycline use.

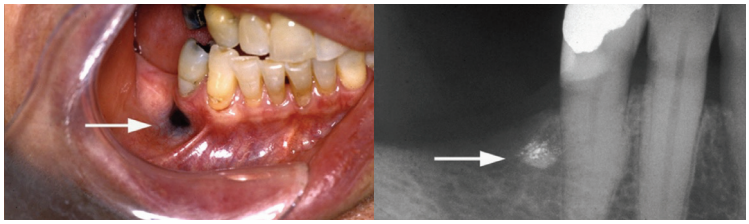


Figure 10: Pigmented lesion suspicious of an amalgam tattoo and radiograph of the same patient showing radiopacities thereby confirming an amalgam tattoo.

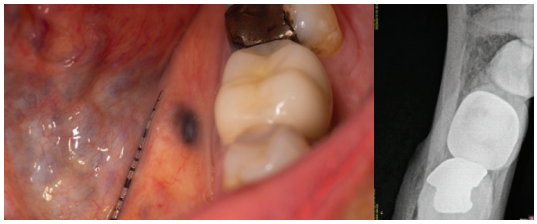


Figure 11: Amalgam tattoo which was diagnosed histologically after biopsy. Radiograph of lesion showed no amalgam fragments. All lesions like this should be biopsied to rule out oral melanoma.

- **Drug associated pigmentation**

Several drugs have been implicated, including drugs for malaria prophylaxis, azidothymidine (AZT) used for HIV/AIDS patients and minocycline used for acne. A good clinical history will facilitate the diagnosis. The pigmentation is reversible (Fig 9).

Exogenous pigmentation

- **Amalgam tattoo**

The cause of amalgam displacement in oral soft tissues may be iatrogenic or traumatic. A detailed clinical examination and history is important to confirm such a diagnosis. Amalgam tattoos can be solitary or multifocal and may have a gray, blue or black appearance. The gingiva and alveolar mucosa are the most common sites involved. A radiograph should be taken to confirm the diagnosis (Fig 10). Unfortunately, not all amalgam tattoos show localised radiopacities (Fig 11). Biopsy is then indicated to rule out oral melanoma. No treatment is necessary once the diagnosis has been confirmed, either through radiograph or histology.

Conclusion

Mucosal melanomas may initially have a relatively innocent appearance, it is therefore compulsory that a biopsy be performed of all pigmented lesions where a clinical diagnosis can't be established using clinical features.

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