

Case report



FOCAL ORAL PIGMENTATION ON THE GINGIVA OF MANDIBLE – A CASE REPORT

Tanya Sbirikova¹, Stanimir Kisselov¹, Radka Cholakova¹, Petia Pechalova¹, Desislava Konstantinova²

1) Department of Oral Surgery, Faculty of Dental Medicine, Medical University-Plovdiv

2) Department of Prosthetic Dentistry, Faculty of Dental Medicine, Medical University- Varna, Bulgaria.

ABSTRACT:

Benign pigmented lesions on the oral mucosa are occasional findings that are physiologically or pathologically determined. Such lesions can occur in healthy individuals or as a manifestation of systemic disease. The pigmented lesions are presented as melanoplakia, melanocytic macule, melanocytic nevus or melanoacanthoma. Without appropriate treatment, they could transform into malignant melanoma. The purpose of the presentation at hand is to exhibit a case of focal oral pigmentation on the gingiva of the mandible of 17-years old patient without other comorbidities. The lesion subsequently is excised and pathohistologically examined in order to determine the diagnosis. Patient's recovery was uneventful, no complications are registered during the 6-months follow-up period.

Keywords: focal oral pigmentation, gingiva of mandible, melamoma

INTRODUCTION:

The term "Oral pigmentations" includes a large group of conditions represented by the accumulation of one or several types of pigments, thus causing color changes in the oral mucosa. [1] Oral pigmentations affect both males and females with no significant differences in the distribution [2]. The most commonly affected oral sites are the palate and maxillary gingiva. Mandibular involvement is rare. [3] Hyperpigmentations of the oral mucosa can be acquired or congenital, localized or diffuse, they can have exogenous or endogenous origin. [1] Exogenous oral pigmentations are most often attributed to foreign bodies implanted in the oral mucosa. Endogenous pigments include melanin, melanoid, oxyhemoglobin, reduced hemoglobin, carotene, bilirubin and iron. [4] Increased production of melanin can cause pigmented lesions of brown, blue, grey or black color, which is determined by the amount of melanin deposits and its distribution in the tissues. [5] The study of Akçiçek G et al. reveals that the most commonly detected mucosal lesions are Fordyce's granules (20.1%), linea alba buccalis (16.9%), melanoplakia (15.9%), and frictional keratosis (2.5%). [6]

CASE REPORT:

Seventeen-years old male patient, non-smoker, without any comorbidities complains of esthetically disturbing black spot localized on the gingiva of the mandible and persisting for several months, painless and without increase in size. Intraoral examination reveals pigmented lesion with well-defined borders, about 5mm in diameter, localized in the attached gingiva between first and second right mandibular premolars. The lesion is at the level of the adjacent soft tissues, and there is no evidence of bleeding. (Fig. 1.)

Fig. 1. Preoperative clinical view



Treatment protocol included radical excision of the lesion and primary plastic closure with adjacent tissues (pedunculated flap) under local infiltration anesthesia. The speculation with possible malignant nature of the lesion was rejected by histopathological evaluation. The sutures were removed 14 days after the surgery, and primal healing was observed. (Fig. 2.)

Fig. 2. Fourteen days following surgery



DISCUSSION:

Human oral mucosal epithelium is not uniformly colored, and several degrees of chromatic variegations may be observed in physiologic and pathologic conditions.[5] Pigmentation of the oral mucosa is present in all races. Distribution and color intensity varies across individuals of different or same race, as well as different localizations in the same patient. Most of the oral pigmentations are physiological and, most likely, genetically determined. [2] Well-defined areas of increased melanin deposits that are not associated with systemic conditions or syndromes are identified as ephelis, lentigo, melanoplakia, melanocytic macule and focal melanocytic melanosis. [7] Melanin is a pigment produced in the melanocytes in the basal layer of the epithelium. It is then transported to keratinocytes through membrane-attached organelles called melanosomes. Melanocytes in the oral mucosa were isolated for the first time by Becker in 1927, however a few years later Laidlaw and Cahn isolated them for the first time in gingival samples [2] No evident difference is found in the melanocytic

count in pale- and dark-skinned people, therefore it is assumed that variations in skin color are attributed to melanocytic activity. [4, 8]

Increased melanocytic pigmentation of oral mucosa can be evident for some systemic pathologies such as Peutz-Jeghers' syndrome Addison's disease. Albright's syndrome, von Recklinghausen disease, hemochromatosis and acanthosis. Black pigmentations can be caused by systemic intoxication with heavy metals, such as mercury silver, lead. Some medications, such as antimalarial drugs, some groups of antibiotics and chemotherapeutics can also lead to black pigmentation of the oral mucosa. [2]

Physiological pigmentation of the oral mucosa usually manifests in the first decade of life, and its color varies from light to dark brown. Such findings are localized bilaterally in the marginal region of the attached gingiva and resemble dark brown, garland-like band with well-defined borders. [2] Physiological pigmentations are most often asymptomatic and do not require treatment. [8].

Another form melanocytic hyperfunction can be presented as melanoma – one of the most malignant tumors in humans. There are no clinical differences between benign hyperpigmented lesions and melanoma of the oral mucosa. Most of the cases occur de novo, however, more than 30% follow benign localized pigmentations. [9, 10] The comprehensive etiology of oral melanoma malignum is yet to be established [11], however, the presence of melanotic hyperpigmented areas is the single proven risk factor. [12] This is why differential diagnosis between oral hyperpigmentation and melanoma malignum is of paramount significance. [10, 13, 14]

CONCLUSION:

Oral pigmented lesions are postulated as benign hyperpigmentation of the oral mucosa with malignant potential. Therefore proper treatment includes radical excision; in each case of oral hyperpigmentation, histopathological evaluation is absolutely necessary for a diagnosis.

REFERENCES:

1. Eisen D. Disorders of pigmentation in the oral cavity. *Clin Dermatol.* 2000 Sep-Oct;18(5):579-87. [PubMed] [Crossref]
2. Mallikarjuna K, Gupta S, Shukla S, Chaurasia S. Unusual extensive physiologic melanin pigmentation of the oral cavity: A clinical presentation. *J Indian Soc Pedod Prev Dent.* 2013 Apr-Jun;31(2):121-5. [PubMed] [Crossref]
3. Chaudhry A, Saluja P, Manjunath M. Is focal melanotic lesion potentially malignant? A case report. *Journal of Taibah University Medical Sciences.* 2018 Apr;13(2):195-200. [Crossref]
4. Lenane P, Powell FC. Oral pigmentation. *J Eur Acad Dermatol Venereol.* 2000 Nov;14(6):448-65. [PubMed] [Crossref]
5. Chandra S, Keluskar V, Bagewadi A, Sah K. Extensive physiologic melanin pigmentation on the tongue: An unusual clinical presentation. *Contemp Clin Dent.* 2010 Jul;1(3):204-6. [PubMed] [Crossref]
6. Akzizek G, Dopru HB, Avcu N. Determination of Oral Health Status in Patients Admitted to a University Hospital: A Pilot Study. *TJFMPC.* 2016; 10(4):196-204.
7. Amir E, Gorsky M, Buchner A, Sarnat H, Gat H. Physiologic pigmentation of the oral mucosa in Israeli children. *Oral Surg Oral Med Oral Pathol.* 1991 Mar;71(3):396-8. [PubMed]
8. Gaeta GM, Satriano RA, Baroni A. Oral pigmented lesions. *Clin Dermatol.* 2002 May-Jun;20(3):286-8. [PubMed] [Crossref]
9. Rapini RP, Golitz LE, Greer RO Jr, Krekorian EA, Poulson T. Primary malignant melanoma of the oral cav-

ity. A review of 177 cases. *Cancer*. 1985 Apr 1;55(7):1543-51. [[PubMed](#)]

10. Femiano F, Lanza A, Buonaiuto C, Gombos F, Di Spirito F, Cirillo N. Oral malignant melanoma: a review of the literature. *J Oral Pathol Med*. 2008 Aug;37(7):383-8. [[PubMed](#)] [[Crossref](#)]

11. Feller L, Khammissa RAG, Lemmer J. A Review of the Aetiopathogenesis and Clinical and Histopathological Features of Oral Mucosal Melanoma. *Scientific World Journal*. 2017;

Article ID 9189812. [[Crossref](#)]

12. Mohan M, Sukhadia VY, Pai D, Bhat S. Oral malignant melanoma: systematic review of literature and report of two cases. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2013; Oct;116(4): e247-54. [[PubMed](#)] [[Crossref](#)]

13. Chatzistefanou I, Kolokythas A, Vahtsevanos K, Antoniadis K. Primary mucosal melanoma of the oral cavity: current therapy and future di-

rections. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2016 Jul; 122(1):17-27. [[PubMed](#)] [[Crossref](#)]

14. Smith MH, Bhattacharyya I, Cohen DM, Islam NM, Fitzpatrick SG, Montague LJ, et al. Melanoma of the Oral Cavity: an Analysis of 46 New Cases with Emphasis on Clinical and Histopathologic Characteristics. *Head Neck Pathol*. 2016 Sep;10(3):298-305. [[PubMed](#)] [[Crossref](#)]

Please cite this article as: Sbirikova T, Kisselov S, Cholakova R, Pechalova P, Konstantinova D. Focal oral pigmentation on the gingiva of mandible – a case report. *J of IMAB*. 2018 Oct-Dec;24(4):2193-2195.

DOI: <https://doi.org/10.5272/jimab.2018244.2193>

Received: 31/05/2018; Published online: 08/10/2018



Address for correspondence:

Tanya Sbirikova

Department of Oral Surgery, Faculty of Dental Medicine, Medical University - Plovdiv,

3, Hristo Botev blvd., 4000 Plovdiv, Bulgaria.

E-mail: tanya_sbirikova@abv.bg