

Prevalence of Oral Pigmented Lesions: A Prospective Study

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Abstract: Aim: The purpose of this study was to determine the relative prevalence of oral pigmented lesions in a selected population of patients. Methods and materials: This study included a random sample of 360 consecutive patients, who attended the Oral Medicine Department of Dental School of the Shiraz University of Medical Sciences between March 2010 to October 2010. All patients underwent an oral cavity examination and the clinical features of the lesions were recorded. Results: We found oral pigmented lesions in 101 of the 360 patients (28 %). The gingiva was the most commonly affected site (85.1 %), followed by the buccal mucosa, palate and lip. Physiologic pigmentation were the most common comprising (86.1 %). Conclusion: Pigmented lesions was common in this population with the physiologic pigmentation be the commonest.

Key words: Pigmented lesions, Amalgam tattoo, Oral mucosa.

INTRODUCTION

Pigmented lesions of the oral mucosa can be classified clinically as (Eisen D., 2000) multifocal and sometimes diffuse macular pigmentation, including entities such as physiologic (racial) pigmentation, disease-associated melanosis, smoking-associated melanosis, drug-induced melanosis and heavy metal pigmentation, and (Lenane P, 2000) solitary focal pigmentation including entities such as oral melanotic macules, amalgam tattoo, melanocytic nevus, melanoacanthoma, and melanoma (Eisen D., 2000; Lenane P, 2000).

Pigmented lesion can result from a variety of causes, both endogenous and exogenous, including both benign and malignant aetiologies.

Exogenous pigmentation is commonly due to foreign-body implantation in the oral mucosa. Endogenous pigments include melanin, haemoglobin, haemosiderin and carotene (Mirowski GW, 2002; Kauzman A, 2004).

As the skin, pigmentary changes involving the oral cavity are associated with a long differential diagnosis (Mirowski GW, 2002).

The clinical history, symmetry and uniformity of the lesion are crucial in determining the clinical differential diagnosis.

The purpose of this study was to determine the relative prevalence of oral pigmented lesions in a selected population of patients.

MATERIALS AND METHODS

This study included a random sample of 360 consecutive patients (one every fourth admission was chosen), who attended the Oral Medicine Department of Dental School of the Shiraz University of Medical Sciences between March 2010 to October 2010.

Informed consent was given by the patients who also completed a short standardized health questionnaire regarding family and personal history, parents provided informed consent for under-age patients and completed the standardized questionnaire.

All patients underwent an oral cavity examination, the pigmented lesions of this area were counted in 11 defined anatomical sites: vermilion border (lower and upper), labial mucosa (lower and upper), gingiva (mandible and maxilla), palate, buccal mucosa, tongue, retromolar pad and floor of mouth.

The diagnosis of oral lesions considered clinical features, such as the number, distribution, size, shape and color of the lesions, if the lesions had regular or irregular borders, if they were small, symmetric and uniform in color.

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Lip lesions involving the skin were excluded from the study, as well as cases in which the pigmentation was a component of systemic disease, or a syndrome. No patient had a history of human immunodeficiency virus (HIV) infection (Buchner A, 2004).

Data were analyzed using software SPSS (version 15;SPSS Inc. Chicago IL; USA).

Results:

The study population consisted of 360 patients with a wide age range (10-50) with the average age of 41.2 ± 10.4 . There were 210 females and 150 males (female-male ratio : 1.4:1) None of the patients had a positive history for family melanoma. We found oral pigmented lesions in 101 of the 360 patients (28 %). The cases with the pigmentation had a wide age range (15-48) with an average age at 37. The female to male ratio was 2.3:1 .

Most of the patients presented diffuse lesions (90.1 %)and most frequently measuring over 2 cm (Figure 1).

The gingiva was the most commonly affected site (85.1 %), followed by the buccal mucosa, palate and lip (Figure 2). Physiologic pigmentation were the most common comprising (86.1 %). Other lesions consist of ecchymosis (4%) amalgam tattoo (3%), blue nevus (2%), varix, smoker’s melanosis, post inflammatory pigmentation, purpura and pigmented lichen planus (each of them 1%).

Table 1 shows the clinical fetures of 101 patients with oral pigmented lesions.

History of trauma was reported in 6 patients (6.9 %), (3 %) patients had the history of long period of OCP using 1 patient was smoker.

There was no correlation between physiologic pigmentation and age and the sex of the patients (Pv > 0.05).

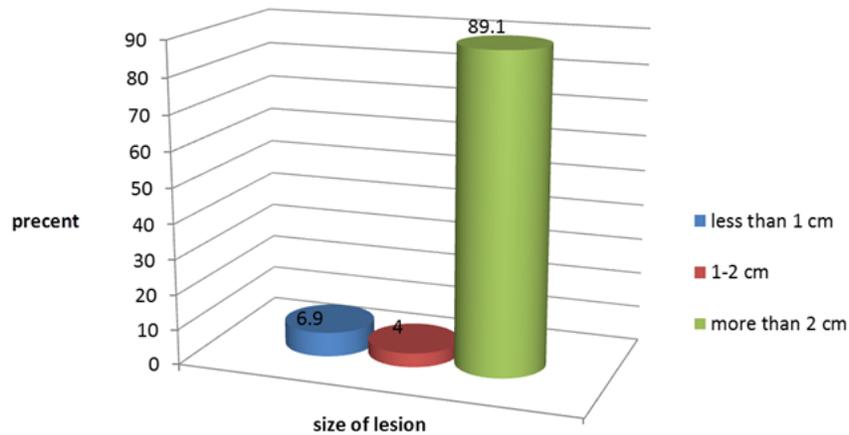


Fig. 1: Distribution of the lesions according to size.

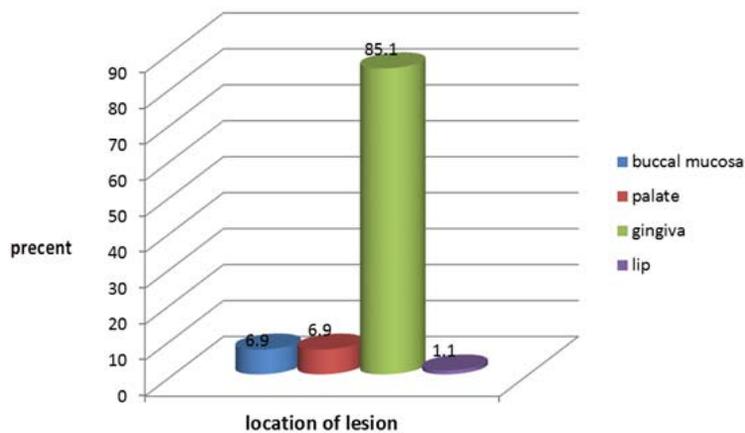


Fig. 2: Distribution of the lesions according to location.

Table 1: Clinical features of 101 patients with pigmented lesions.

Type of lesion	Number	Age range	Sex	Location (n)	pattern
Physiologic pigmentation	87	10-20 : 30 21-30 : 24 31-40 : 45 41-50 : 15	Male : 23 Female : 64	Gingiva: 83 Buccal mucosa: 4	Diffuse : 87 Focal : 0
Echymosis	4	31-40 : 2 41-50 : 2	Male : 2 Female : 2	Buccal mucosa : 10 Palate : 3	Diffuse : 2 Focal : 2
Amalgam tattoo	3	21-30 : 2 41-50 : 1	Male : 2 Female : 1	Buccal mucosa : 1 Gingiva : 2	Focal : 2 Multiple : 1
Smoker's melanosis	1	31-50 : 1	Male : 1 Female : 0	gingiva	Diffuse : 1
Blue nevus	2	31-40 : 2	Male : 1 Female : 1	Palate : 2	Focal : 2
Post inflammatory pigmentation	1	31-40 : 1	Male : 0 Female : 1	palate	Focal : 1
Purpura	1	21-30 : 1	Male : 0 Female : 1	palate	Focal : 1
Pigmented lichen planus	1	41-50 : 1	Male : 0 Female : 1	Buccal mucosa	Focal : 1
Varix	1		Male : 1 Female : 0	lip	Focal : 1

Discussion:

There is scanty information in the literature regarding the relative frequency of pigmented lesion of the oral cavity (Buchner A, 2004; Bregni RC, 2007; Correa PH, 2007; De Giorgi V, 2009).

In our study 28% of the patients presented oral pigmented lesions.

Buchner et al reported that 0.83% of their population had oral pigmentation (Buchner A, 2004) and in Giorgi et al report the prevalence was 5.7% (De Giorgi V, 2009).

In both of previous study, the frequency of solitary pigmented lesions was evaluated but in our present study both solitary and diffuse pigmentation was analyzed so the great difference in the prevalence might be due to different criteria for evaluation of the lesions.

In the present study, physiologic pigmentation was the most common. Oral physiologic pigmentation (OPP) are usually observed in dark-skinned population (Kauzman A, 2004; Çiçek Y, 2003; Gaeta GM, 2002).

In a study on 1300 children, OPP were identified in 13.5% (Amir E, 1991). In our study, most of the cases with OPP were in the age range of 31-40 years old. Çiçek et al found that oral pigmentation can be detected in the second decade of life (Çiçek Y, 2003). In this study in accordance to Esen and Groskey (2004; 1984) there was no correlation between OPP and age and sex of the patients.

Giorgi and Correa, reported vascular lesions are the most common pigmented lesions in the oral cavity but they represent 1% of our oral pigmented lesions (Correa PH, 2007; De Giorgi V, 2009).

Amalgam tattoo is considered common (Bregni RC, 2007; Correa PH, 2007). But this was found only in 3% of our patients. This can be explained by the ever diminishing use of amalgam in dental work which causes the formation of tattoos. Indeed, compared to the past, there is increasing use of new generation resins which do not cause this phenomenon (De Giorgi V, 2009).

In conclusion, 28% of our cases presented oral pigmented lesion, the most frequent being physiologic pigmentation. Due to limited number of patients studied, further work will be recommended to demonstrate the actual frequency of oral pigmented lesion.

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