

Yellowish lesions of the oral cavity. Suggestion for a classification

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ABSTRACT

The colour of a lesion is due to its nature and to its histological substratum. In order to ease diagnosis, oral cavity lesions have been classified according to their colour in: white, red, white and red, bluish and/or purple, brown, grey and/or black lesions. To the best of our knowledge, there is no such a classification for yellow lesions. So, a suggestion for a classification of yellowish lesions according to their semiology is made with the following headings: diffuse macular lesions, papular, hypertrophic, or pustular lesions, together with cysts and nodes. This interpretation of the lesions by its colour is the first step to diagnosis. It should be taken into account that, as happens with any other classification, the yellowish group of lesions includes items with different prognosis as well as possible markers of systemic disorders.

Key words: *Yellow lesions, differential diagnosis, classification.*

RESUMEN

Para facilitar el diagnóstico de las lesiones de la cavidad oral estas han sido clasificadas atendiendo a su color en: blancas, rojas, blancas y rojas, azules y/o púrpura, marrones, grises y/o negras. El color de la lesión se debe a su naturaleza y al sustrato histológico. Debido a que no existe ninguna clasificación de las lesiones, según nuestro conocimiento, atendiendo a su color amarillo, proponemos aquí esta clasificación desde una perspectiva semiológica, agrupándolas en lesiones maculares difusas, lesiones papulares, lesiones hipertróficas, lesiones pustulosas, quistes y nódulos. Esta lectura de las lesiones según su color constituye el primer paso para ayudar a su diagnóstico. Finalmente, debemos considerar que al igual que ocurre con las lesiones que se clasifican en cualquier grupo de color, el grupo de lesiones amarillas incluirá lesiones con diferente pronóstico y además lesiones que pueden indicar una patología sistémica de base.

Palabras clave: *Lesiones amarillas, diagnóstico diferencial, clasificación.*

INTRODUCTION

Changes in colour have been classically used to catalogue and classify the mucosal and soft tissue pathology of the oral cavity. Thus, these lesions have been catalogued as white, red, white and red, blue and/or purple, brown, grey and/or black. However, and to the best of our knowledge, yellow lesions and conditions of the oral cavity have not been organized and recognized as a separate group (1-4).

Isolated reports recovering yellowish lesions within the oral cavity have been published from time to time. The yellow set of lesions has a wide prognostic spectrum and represents a very heterogeneous group of lesions, acting some of them as occasional markers for systemic disorders (5-10).

From a semiological point of view, these disorders can emerge as diffuse macular lesions (hypercarotenemia and hyperbilirubinemia), papular lesions (Fordyce condition, accessory lymphoid aggregates, verruciform xanthoma, lipoid proteinosis and amyloidosis), hypertrophies (yellow hairy tongue), pustular lesions (pyostomatitis vegetans) cysts (dermoid and lymphoepithelial cysts) and nodes (lipoma and liposarcoma) (1, 11).

The interpretation of these elementary lesions is a previous step to diagnosis of the disorder. Thus, an attempt was made to classify yellowish lesions in several categories of elementary lesions attending to the most frequent and characteristic elementary lesion. However, several pathologies may present multiple elementary lesions and, in these situations, a number of differential diagnoses should be considered (11).

This proposal of a classification for those lesions/conditions in the oral mucosa displaying a “yellow colour” is based upon their nature and histological substratum (Table 1). This classification criterion discloses that the subepithelial accumulation of lymphoid tissue, adipose tissue, purulent or sebaceous materials, pigment accretion, amyloid or lipoprotein deposits, or even lipid-loaded histiocytes are responsible for the yellow colour of these lesions.

CLASSIFICATION

Diffuse macular yellow lesions:

-Jaundice. This is a condition characterized by an excess of bilirubin in plasma and its accumulation within the tissues, resulting in a uniform, diffuse yellowish colour of the skin, mucosa and the sclera of the eye. The intensity of the yellow coloration varies with the bilirubin serum level. In the oral mucosa, the discolouration is more frequently found at the junction between hard and soft palate, ventral surface of the tongue and cheeks, due to the affinity of the elastic fibres for bilirubin (12) (Figure 1).

-Hypercarotenemia. This condition is due to a high plasma concentration of carotenes, mostly diet-related (carrots, oranges, etc). Its clinical presentation is as a yellowish pigmentation in the palate and, occasionally, in palms, soles and nasolabial fold. The absence of sclerae pigmentation and the carotene serum level permit a differential diagnosis with jaundice (13).

Table 1. Yellow lesions of the oral cavity according to their pathogeny and histological features.

	Nature/Pathogeny	Pathology/Pseudopathology	Histological basis
Lesions	Neoplasias	Lipoma/Liposarcoma	Adipocytes
	Cysts	Dermoid and epidermoid cysts	Keratin/Sebaceous glands
		Lymphoepithelial cyst	Keratin/lymphoid tissue
	Hyperplastic reactions	Verruciform xanthoma	Lipid-loaded foam cell histiocytes
	Infectious	Superficial abscess	Purulent material
		Pyostomatitis vegetans	Microabscesses
Conditions	Pigmental deposits	Jaundice	Bilirubin
		Carotenemia	B-carotenes (lipochrome)
	Metabolic disorders	Amyloidosis	Amyloid
		Hyalinosis cutis et mucosae	Lipoproteins
	Developmental alterations	Accessory lymphoid aggregates	Lymphoid tissue
		Fordyce’s spots	Sebaceous glands
		Yellow hairy tongue	Hypertrophy of filiform papillae / chromogenic microorganisms

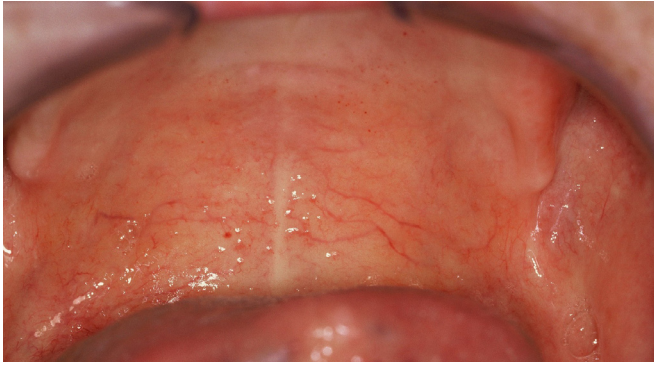


Fig. 1. Jaundice at the junction between hard and soft palate.



Fig. 2. Ectopic lymphoid tissue in the tonsillar arches.

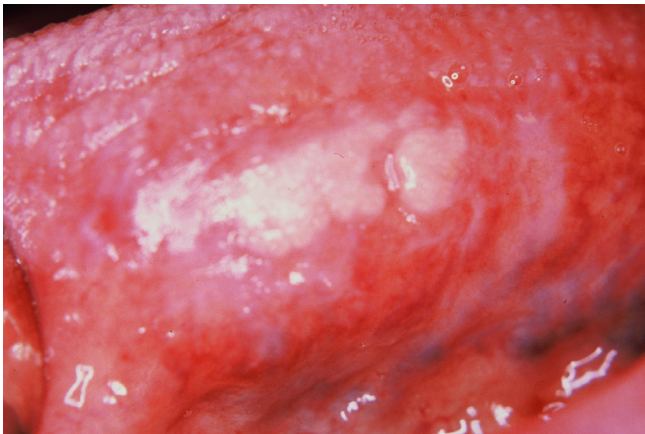


Fig. 3. Verruciform xanthoma in the lateral border of the tongue.

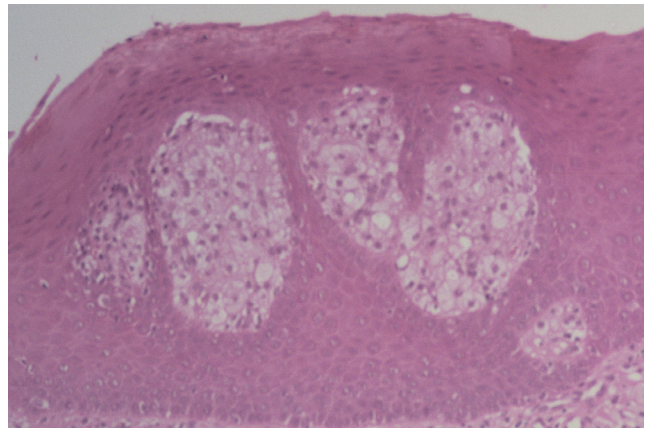


Fig. 4. Verrucous proliferation of the epithelium with hyperkeratosis and high numbers of foam cells.

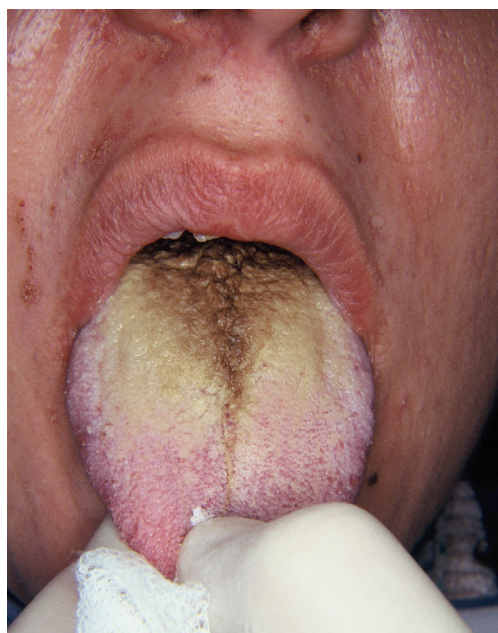


Fig. 5. Hairy tongue.

Mainly yellow papular lesions:

Papules are solid lesions resulting from the hyperplasia of the cellular elements of the oral mucosa (epithelial hyperplasia, connective tissue infiltration and metabolic deposits). The colour is a key element in the recognition of papular lesions.

-Fordyce condition. Is defined by the emergence of small, multiple heterotopic sebaceous glands in the oral mucosa and red lip. This is an asymptomatic, pseudo-pathologic condition present in up to an 80% of the individuals. It is more prevalent among adults probably due to hormonal factors (14).

-Accessory lymphoid aggregates or ectopic lymphoid tissue. This concerns normal lymphoid tissue located in the soft palate, floor of the mouth and tonsillar arches. The diagnosis is generally established relying on the clinical features (15, 16) (Figure 2).

-Verruciform xanthoma. Is an asymptomatic papular lesion with a well defined, mainly yellowish, verrucous surface that can be found on the alveolar ridge and gingivae. It does not seem to have any relationship with metabolic disorders and its aetiology and pathogeny are not fully understood (17, 18) (Figures 3 and 4).

-Lipoglycoproteinosis or lipoid proteinosis. Is an inherited lesion that arises during childhood due to extracellular deposits of glycoproteins and lipids in lip mucosa, tongue, lingual fraenum, palate, pharynx, larynx and skin. Clinically, this disorder reveals yellowish granules and papular lesions that evolve resulting in a scarring aspect. Hoarseness is a frequently and early symptom of this disease (19).

-Systemic amyloidosis. Is a deposit of amyloid protein in the skin, heart, kidney, digestive tract, liver, larynx and trachea. Rounded or irregular yellowish papules in the oral cavity are an early sign of the disease, along with nodes, ulcerations or bristles with a haemorrhagic content. A typical sign of this disorder is the presence of mucous folds by the corners of the mouth that cause difficulties for chewing, swallowing or talking. The prognosis is serious (6, 7, 20, 21).

Hypertrophies

-Yellow hairy tongue. Is an ill defined lesion, located in the two anterior thirds of the tongue, with a hairy appearance as a consequence of the lengthening of the filiform papillae due to tobacco, fungi, food impaction and the overgrowth of chromogenic bacteria (22) (Figure 5).

Pustular lesions.

-Pyostomatitis vegetans. Is a chronic, pustular, mucocutaneous disorder. Oral lesions can be found in the buccal mucosa, lip, palate and gingivae. These lesions show small papillary vegetations, pustules and small superficial ulcerations on an erythematous surface. Typically, they are not painful and constitute a very specific oral mucosal marker for the existence of inflammatory bowel disorders, particularly ulcerative colitis (10, 23).

Cysts.

-Dermoid cyst. Is a developmental cyst made of a fibrous wall layered by a stratified epithelium with dermal adnexal structures (hair follicles, sweat and sebaceous glands). They

are usually located over the mylohyoid muscle, causing a swelling in the floor of the mouth (24-25).

-Lymphoepithelial cyst. Is a slow growing, asymptomatic, small sized cyst (usually less than a cm), most frequently found in the floor of the mouth and ventral surface of the tongue (27).

Nodes.

-Superficial lipoma. Is an asymptomatic, mesenchymal benign tumour made of mature adipose tissue with a slow growth rate. Its most common intraoral locations are the cheeks, floor of the mouth and the tongue. Due to its clinical similarity with benign submucous cysts (lymphoid and lymphoepithelial cysts), the diagnosis can be established by a puncture that shows the presence of mature adipose tissue (28-31).

-Liposarcoma. This malignant mesenchymal tumour is most frequently found in the tongue. There are four different pathological types, with different biological behaviour and prognosis. It is a rare neoplasia that accounts for a 5.6% to 9% of all head and neck tumours. Its presence in the oral cavity is even less frequent (32).

CONCLUSION

The classification and organization of yellow intraoral lesions is relevant because it may ease differential diagnosis within a group of lesions and conditions with diverse clinical meaning and also because it will contribute to the early diagnosis of general disorders, as these lesions occasionally behave as markers of systemic disease.

REFERENCES

1. Wood NK, Goaz PW, eds. Diagnóstico diferencial de las lesiones maxilofaciales. 5ª ed. Madrid: Harcourt España; 1998.
2. Reichart PA, Kohn H. Prevalence of oral leukoplakia in 1000 Berliners. *Oral Dis* 1996;2:291-4.
3. Schepman KP, van der Meij EH, Smeele LE, van der Waal I. Prevalence study of oral white lesions with special reference to a new definition of oral leukoplakia. *Eur J Cancer B Oral Oncol* 1996;32B:416-9.
4. Seoane J, Varela-Centelles PI, Diz Dios P, Suarez Quintanilla JM, Agudo A. Experimental intervention study about recognition of erythroplakia by undergraduate dental students. *Int Dent J* 1999;49:275-8.
5. Ruiz-Roca JA, Berini-Aytes L, Gay-Escoda C. Pyostomatitis vegetans. Report of two cases and review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2005;99:447-54.
6. Stoor P, Suuronen R, Lindqvist C, Hietanen J, Laine P. Local primary (AL) amyloidosis in the palate. A case report. *Int J Oral Maxillofac Surg* 2004;33:402-3.
7. Kolokotronis A, Chatzigiannis I, Paloukidou N. Oral involvement in a case of AA amyloidosis. *Oral Dis* 2003;9:269-72.
8. Ayangco L, Rogers RS 3rd, Sheridan PJ. Pyostomatitis vegetans as an early sign of reactivation of Crohn's disease: a case report. *J Periodontol* 2002;73:1512-6.
9. De Ponte FS, Brunelli A, Marchetti E, Bottini DJ. Sublingual epidermoid cyst. *J Craniofac Surg* 2002;13:308-10.
10. Chaudhry SI, Philpot NS, Odell EW, Challacombe SJ, Shirlaw PJ. Pyostomatitis vegetans associated with asymptomatic ulcerative colitis: a case report. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1999;87:327-30.
11. Neville BW, Damm DD, Allen C, Bouquot JE, eds. *Oral and Maxillofacial Pathology*. 2nd edition. USA: WB. Saunders Company; 2002.
12. Lindberg MC. Hepatobiliary complications of oral contraceptives. *J Gen Intern Med* 1992;7:199-209.
13. Pierach CA. Hypercarotenemia. *N Engl J Med* 2002;347:222-3.

14. Ocampo-Candiani J, Villarreal-Rodriguez A, Quinones-Fernandez AG, Herz-Ruelas ME, Ruiz-Esparza J. Treatment of Fordyce spots with CO2 laser. *Dermatol Surg* 2003;29:869-71.
15. Seoane Leston JM, Aguado Santos A, Varela-Centelles PI, Vazquez Garcia J, Romero MA, Pias Villamor L. Oral mucosa: variations from normalcy, part I. *Cutis* 2002;69:131-4.
16. Mogi K. Ectopic tonsillar tissue in the mucosa of the floor of the mouth simulating a benign tumour. Case report. *Aust Dent J* 1991;36:456-8.
17. Oliveira PT, Jaeger RG, Cabral LA, Carvalho YR, Costa AL, Jaeger MM. Verruciform xanthoma of the oral mucosa. Report of four cases and a review of the literature. *Oral Oncol* 2001;37:326-31.
18. Polonowita AD, Firth NA, Rich AM. Verruciform xanthoma and concomitant lichen planus of the oral mucosa. A report of three cases. *Int J Oral Maxillofac Surg* 1999;28:62-6.
19. Aroni K, Lazaris AC, Papadimitriou K, Paraskevaki H, Davaris PS. Lipoid proteinosis of the oral mucosa: case report and review of the literature. *Pathol Res Pract* 1998;194:855-9.
20. Mateo Arias J, Molina Martinez M, Borrego A, Mayorga F. Amyloidosis of the submaxillary gland. *Med Oral* 2003;8:66-70.
21. Rodriguez J, Gonzalez J, Raspall G. Primary amyloidosis with severe macroglossia. *Med Oral* 2000;5:36-41.
22. Taybos G. Oral changes associated with tobacco use. *Am J Med Sci* 2003;326:179-82.
23. Hegarty AM, Barrett AW, Scully C. Pyostomatitis vegetans. *Clin Exp Dermatol* 2004;29:1-7.
24. De Ponte FS, Brunelli A, Marchetti E, Bottini DJ. Sublingual epidermoid cyst. *J Craniofac Surg* 2002;13:308-10.
25. Tuz M, Dogru H, Uygur K, Baykal B. Rapidly growing sublingual dermoid cyst throughout pregnancy. *Am J Otolaryngol* 2003;24:334-7.
26. Lustig J, London D. Submental epidermoid cyst. A case report with an unusual clinical and roentgenological presentation. *Med Oral* 1998;3:96-100.
27. Epivatianos A, Zaraboukas T, Antoniadis D. Coexistence of lymphoepithelial and epidermoid cysts on the floor of the mouth: report of a case. *Oral Dis* 2005;11:330-3.
28. Del Castillo Pardo de Vera JL, Cebrian Carretero JL, Gomez Garcia E. Ulcera crónica lingual inducida por lipoma de la cavidad oral. Caso clínico. *Med Oral* 2004;9:163-7.
29. Coimbra F, Lopes JM, Figueiral H, Scully C. Spindle cell lipoma of the floor of the mouth. A case report. *Med Oral Patol Oral Cir Bucal* 2006;11:E401-3.
30. Del Castillo Pardo de Vera JL, Cebrian Carretero JL, Gomez Garcia E. Chronic lingual ulceration caused by lipoma of the oral cavity. Case report. *Med Oral* 2004;9:166-7, 163-6.
31. Chidzonga MM, Mahomva L, Marimo C. Gigantic tongue lipoma: a case report. *Med Oral Patol Oral Cir Bucal* 2006;11:E437-9.
32. Allon I, Vered M, Dayan D. Liposarcoma of the tongue: clinicopathologic correlations of a possible underdiagnosed entity. *Oral Oncol* 2005;41:657-65.