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CASE REPORT

Oral squamous papilloma: a view under clinical, fluorescence and histopathological aspects

Papiloma escamoso oral: uma visão sob aspectos clínicos, de fluorescência e histopatológicos

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ABSTRACT

Oral squamous papilloma is a benign tumor whose pathogenesis has been associated with human papillomavirus infection. Thus, it is noteworthy that human papillomavirus infection is one of the risk factors associated with the development of cervical, anogenital, pharynx, larynx and oral cavity carcinomas. Oral squamous papilloma can affect any region of the oral cavity, and transmission of human papillomavirus can occur by direct contact, sexual intercourse or from mother to child during delivery. The diagnosis is clinical and histopathological, with surgical removal representing the treatment of choice. Recently, widefield optical fluorescence has been used as a complementary examination to the conventional clinical examination in the screening of oral pathological lesions and for the delimitation of surgical margins. We report a case of oral squamous papilloma with its clinical, histopathological features and, in addition, from the perspective of wide field optical fluorescence.

Keywords: Papilloma/pathology; Papilloma/diagnosis; Papillomaviridae; Pathology, oral; Fluorescence

RESUMO

O papiloma escamoso oral é um tumor benigno, cuja patogênese tem sido associada à infecção pelo papilomavírus humano. A infecção pelo papilomavírus humano é um dos fatores de risco associado ao desenvolvimento dos carcinomas cervicais, anogenitais, faríngeos, laríngeos e da cavidade oral. O papiloma escamoso oral pode acometer qualquer região da cavidade oral, e a transmissão do papilomavírus humano ocorre por contato direto, relação sexual ou de mãe para filho durante o parto. O diagnóstico é clínico e histopatológico, e a remoção cirúrgica representa o tratamento de escolha. Recentemente, a fluorescência óptica de campo amplo tem sido empregada como exame complementar ao exame clínico convencional, no rastreio de lesões patológicas orais e para delimitação de margens cirúrgicas. Relatamos um caso de papiloma escamoso oral com suas características clínicas e histopatológicas, sob a perspectiva da fluorescência óptica de campo amplo.

Descritores: Papiloma/patologia; Papiloma/diagnóstico; Papillomaviridae; Patologia bucal; Fluorescência

INTRODUCTION

Oral squamous papilloma is a benign tumor and its pathogenesis has been associated with human papillomavirus (HPV) infection.[1-5] The HPV

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infection is one of the risk factors associated with the development of cervical, anogenital, pharynx, larynx and oral cavity carcinomas.[2-6] Transmission of the virus can occur by direct contact with lesions, sexual intercourse or from mother to child during delivery.[1-6] The classic clinical presentation of oral squamous papilloma can be described as an exophytic growth, with a rough surface that appears a cauliflower-like and, depending on the degree of keratinization, the lesion may be white, pink and/or red.[3,4] The lesion can affect any oral region, being more common on the tongue, lip, uvula and soft palate.[1,3] The diagnosis is clinical and histopathological.[1-4] The treatment of choice for oral squamous papilloma is the surgical removal.[1-3] Otherwise, widefield optical fluorescence imaging devices have been developed for use as a complementary examination to the traditional clinical examination for screening of oral lesions.[7-10] In fact, the use of widefield optical fluorescence has been reported and even approved by the Food and Drug Administration (FDA) with two clinical applications related with the possibility of increased visualization of oral abnormalities, which could be imperceptible to conventional clinical examination and delimitation of adequate surgical margins.[7,8,10] However, it is noteworthy that, research on fluorescence examination has converged, over the years, only the screening and diagnosis of oral cancer and potentially malignant oral disorders.[8,9] However, recently we have demonstrated new applications for widefield fluorescence technology in the context of oral cancer and other oral abnormalities.[7,10]

We report a case of oral squamous papilloma including its clinical, histopathological features, from the perspective of widefield optical fluorescence.

CASE REPORT

A 54-year-old man with a 6-months history of a painless grow with rough surface, on the middle of hard palate sought our service in the Oral Diagnosis Center of the Divinopolis Health Department, Minas Gerais, Brazil. On the anamnesis, the patient reported that he had unprotected sex and that recently, 1 month ago, he had similar lesions in the genital region surgically removed. The biopsy confirmed these lesions to be a papilloma. Under clinical examination, we observed in middle of hard palate a solitary, well-defined, oval-shaped, sessile, whitish-pink exophytic growth, measuring 0.5 x 0.5cm in size and, with cauliflower appearance (Figure 1).

In the same clinical appointment, a widefield optical fluorescence complementary examination was performed throughout the oral cavity to certify that there would be no other oral lesions undetected by the clinical examination and also to better determine the extent of the lesion. Under fluorescence, only one lesion was observed, with areas of green fluorescence contrasting with small area of red fluorescence (Figure 2). In this sense, fluorescence images are suggestive of hyperkeratosis, possible bacterial colonization in the rough surface of the lesion and no signs of malignancy.

Subsequently, during the same clinical appointment, an excisional biopsy was performed. After 10 days, the patient returned for a follow-up, and remission of the lesion was observed. The histopathological result presented squamous mucosa with thickened epithelium at the expense of acanthosis, papillomatosis, hypergranulosis, hyperkeratosis and squamous cells with a clear perinuclear halo and rare binucleations. In the chorion, there was slight inflammatory infiltrate with lymphocytes and plasma cells, in addition to vascular ectasia (Figure 3). Results of the histopathology were consistent with the diagnosis of oral squamous papilloma and not suggestive of malignancy.

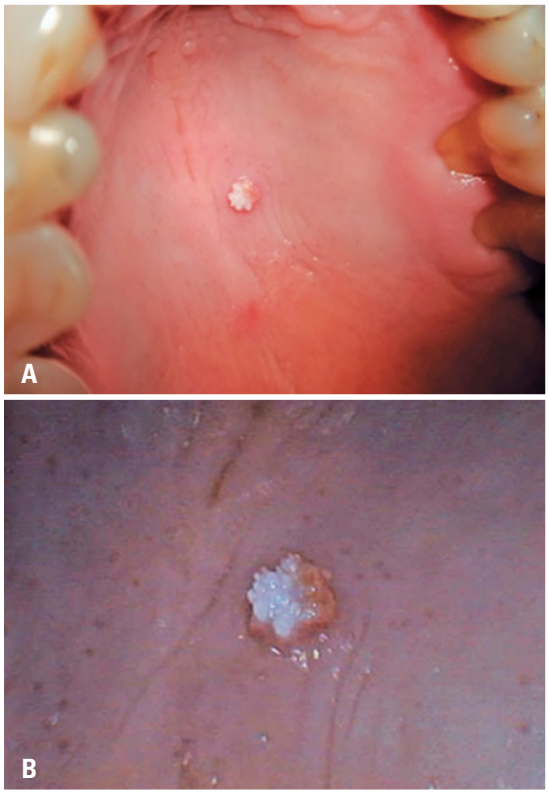

Figure 1. Clinical image of oral squamous papilloma. (A) View of the lesion in the middle of the hard palate. (B) View at 40x magnification showing the appearance of cauliflower with whitish-pink coloration

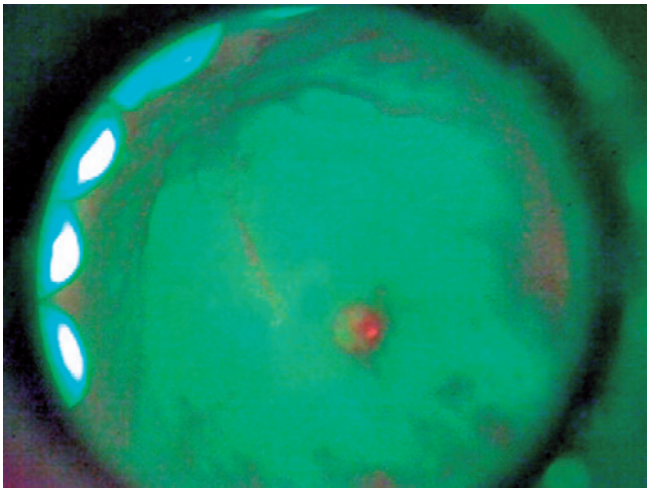

Figure 2. Image under widefield optical fluorescence of oral squamous papilloma. Note the lesion in the middle of the hard palate with areas of greenish fluorescence contrasting with a small area of reddish fluorescence

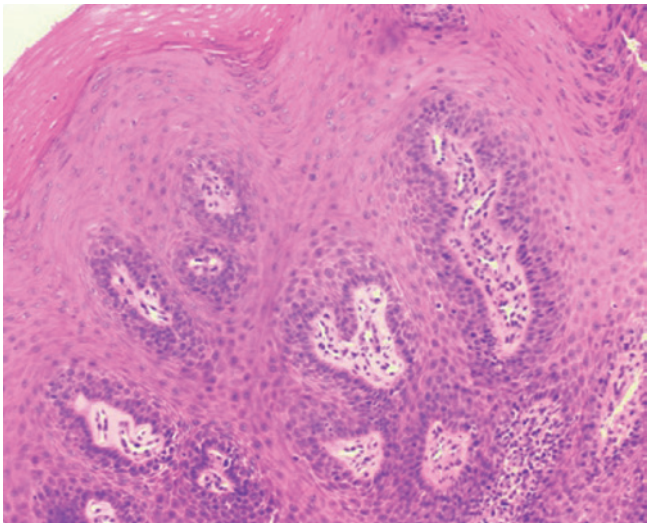

Figure 3. Histological image of oral squamous papilloma with presence of acanthosis, papillomatosis, hypergranulosis, hyperkeratosis and squamous cells with a clear perinuclear halo and rare binucleations. There was no evidence of koilocytosis. Staining method: hematoxylin-eosin. Magnification: 10x

The patient was advised that the pathology is sexually transmissible, therefore, for prevention, to always use a condom during sexual intercourse and get periodic medical follow-up visits.

DISCUSSION

The transmissibility of HPV either by direct inoculation or through sexual intercourse is widely reported in scientific papers.[2-6] Because of this transmissibility of HPV there is the possibility of concomitant lesions in the oral and anogenital regions, which need to be identified and treated, and this requires a deeper clinical approach on anamnesis and clinical examination.[2] Thus, this case describes the presence of concomitant lesions in oral and genital region, considering that on the anamnesis, the patient complained about the presence of the oral lesion for 6 months and also reported surgical removal of a genital papilloma 1 month ago.

Oral lesions by HPV have been associated with an increased risk of developing oral cancer.[1-6] Therefore, early diagnosis is fundamental for an adequate and less invasive treatment.[4] However, Shin et al., and Lane et al., reported the challenging of identifying and diagnosing the differential between oral lesions, especially in the early stages when they may present clinical similarity.[8,9] In this sense, the use of widefield fluorescence may be useful since, is approved by health Canadian agency and the FDA, precisely for the identification of oral lesions, which may be imperceptible to clinical examination.[7,8,10] The identification of lesions by widefield fluorescence is due to the visualization of the contrast between adjacent normal tissue fluorescence and the lesion.[7-10] In this sense, a reduction of fluorescence, with appearance of a dark area, may be related to an inflammation or malignancy,[7-10] which was not perceived in this particular case. Under fluorescence, there was a discrete difference between the fluorescent greenish pattern of adjacent normal tissue and the lesion, which is due to hyperkeratinization and acanthosis. The presence of reddish fluorescence may be related to the presence of porphyrins of bacterial origin, which, may be on the lesion.[10]

It is noteworthy that the widefield fluorescence examination is safe and does not use ionizing radiation, dye or contrasts, thus this exam avoids potential risks of DNA damage or allergic complications.[7,10] In the same sense, the fluorescence examination is painless because it does not require either contact of the device with the examined tissue, which makes the procedure comfortable.[7,10] In addition, the fluorescence device has a cost that represent less than 1% of the value of a mammograph and as it does not require consumables such as films, needles, contrasts, punch, blades or dyes, the use of this device can be easily incorporated into the public health system without the need of large financial investments. In addition, as presented in this case, the examination is quick with result in real time and can be performed in the same clinical consultation.[7,10] However, the widefield fluorescence technique requires a dark environment for adequate fluorescence visualization. Furthermore, there is a need

for professionals to receive training on the fluorescence technique and knowledge on the variations between aspects of normality and pathology from a clinical and fluorescence perspective.

This case does not present in the histopathology the presence of koilocytosis, which could be a pathognomonic sign of HPV infection.[2,4] However, the presence of koilocytosis in histological sections of oral squamous papilloma, according to Jaju et al., and Candotto et al., may or may not be present without jeopardize the final diagnosis.[1,2]

Given the increase in cases of HPV infection and its correlation with both benign lesions and oral cancer. Our case highlights the importance of early diagnosis of lesions. Widefield fluorescence examination, may aid in the identification and provide additional data for the diagnosis of squamous papilloma. However, measures such as advising for protected sexual practices, vaccination against HPV and the regular screening visits constitute effective and necessary preventive measures. The gold standard for the final diagnosis of oral squamous papilloma is clinical and histopathological examination. Moreover, currently, the biomolecular method through polymerase chain reaction is the most suitable laboratory technique to determine viral infection and whether an involvement of HPV16 and HPV18 subtypes exist, considering that this existence is related to higher risk of malignant tissue alterations.

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