

YUMUŞAK DAMAKTA VERRUKA VULGARİS: İmmunohistokimyasal Değerlendirmesi Olan Bir Olgu Sunumu

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ÖZET

Verruca vulgaris (VV) oral kavitede tanımlanmıştır. Ancak yumuşak damak mukozasında VV oldukça nadirdir. Bu lezyonlar ciltte bulunan VV ile benzer histolojik ve klinik bulgular gösterdiği taktirde oral verruca tanısı almalıdır. Human papillomavirus (HPV) antijen oral VV vakalarının % 55-75'inde tespit edilmiştir. HPV 2, 4 ve 57 oral VV' den izole edilmiştir. Cilt ile ilişkili HPV tiplerinin oral lezyonları azalan sıklıkla, baskın olarak dudak, damak, bukkal mukoza, dil ve gingivada lokalizedir. Buna karşılık mukozal HPV tipleri damak, dudak, dil, bukkal mukoza ve gingivada yerleşim gösterir. 62 yaşındaki bayan hastanın yumuşak damakındaki papillomatöz lezyonundan biopsi spesmeni alındı. Kesitlerde üst katlarındaki hücrelerde hiperkeratoz, parakeratoz ve koilositotik değişiklikler gösteren epitelin papiller büyümesi ile oluşan lezyon izlendi. Kesitler gen spesifik papillomavirus antijenini gösteren immunoperoxidase-PAP method (Dako-PAP, USA) ile boyandı ve yüzeysel parakeratinize ve granüler hücrelerde grup spesifik antijen varlığı görüldü. Bu histolojik özellikler ve klinik bulgular ciltte görülen VV ile oldukça uyumlu idi.

Anahtar Kelimeler: Verruca, vulgaris, yumuşak damak

Verruca Vulgaris on The Soft Palate: A Case Report with Immunohistochemical Evaluation

SUMMARY

Verrucae vulgares (VV) have been described in the oral cavity. But VV on the soft palatal mucosa are very rare. It has been suggested that the diagnosis of oral verruca should be confined to those lesions which show clinical and histological criteria similar to those found in VV of the skin. Human papillomavirus (HPV) antigen has been detected in 55-75 % of oral VV cases. HPV 2,-4 and -57 were isolated from oral VV. The oral lesions of skin-related HPV types are localized predominantly to the lip, palate, buccal mucosa, tongue and gingiva with decreasing frequency; in contrast those of mucosal HPV types are located in the palate, lip, tongue, buccal mucosa and gingiva. A biopsy specimen of an papillomatous lesion on the soft palate was taken from a 62-year-old woman. The sections showed papillary growth of the epithelium with hyperkeratosis, parakeratosis and koilocytotic changes of the cells located in the upper layers of the oral squamous cell epithelium. Sections were stained with the immunoperoxidase-PAP method (Dako-PAP, USA) to demonstrate the genus-specific papillomavirus antigen. Our case demonstrated the presence of the group-specific antigen in the superficial parakeratinized and granular cells. These histological ve clinical features corresponded well to those of VV on the skin.

Key Words: Verruca, vulgaris, soft palate

Introduction

Verruca vulgaris (VV), common wart or viral wart, is a virus-induced neoplasm of the skin caused by a human papillomavirus (HPV).¹ Oral verruca vulgaris, which occurs either on the lip vermillion or on the oral mucosa, demonstrates histopathological features identical to its cutaneous counterpart. Initially, it was thought that oral VV was clinically indistinguishable from oral squamous cell papilloma.^{1,2} However, the histologic similarity between oral VV and cutaneous VV,^{1,3} along with the finding of HPV types in oral VV that are identical to those found in cutaneous VV, suggest that oral VV is distinct from oral squamous cell papilloma.^{1,4,5} In addition, the fact that oral VV has been shown to be transmitted from fingers through autoinoculation supports an association between these lesion and HPV.^{1,6,7}

The clinical features are described as firm, whitish, sessile, papillomatous, rough-surfaced lesions

that appear abruptly in the oral cavity and have a rapid growth pattern.^{1,2,8} The histological features of oral VV include papillomatosis, acanthosis and hyperkeratosis. Vertical tiers of hyperkeratosis are seen overlying the summits of papillomatous elevations and granular cells with heavy, clumped keratohyalin granules are found in the valleys between the elevations. The rete-ridges are elongated, characterized by their inward bending at the margin of the verruca, and point radially towards the center of the lesion. Vacuolated cells, with small and basophilic nuclei surrounded by a clear halo and pale cytoplasm, are found in the upper spinous and granular cell layers in the most cases (koilocyte cells).^{1,2,8,9}

Human papillomavirus (HPV) antigen has been detected in 55-75% of oral VV cases.^{2,4,5,10,11} This percentage is similar to that detected in cutaneous VV.² Lutzner et al. first identified HPV 2 DNA in oral VV that had histologic features typical of HPV 2-induced warts of skin.^{2,4} Since then, other authors have demonstrated HPV types in oral VV that are idetical

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to those found in cutaneous VV, namely, HPV 2 and 4.^{2,5,11}

Case Report

A 62-year-old-woman had an oral VV on the soft palatal mucosa. It had a diameter of 1 mm with a firm, exophytic, whitish, rough-surfaced and sessile papillomatous papule. No other warty lesions were found either in the oral cavity or on her skin. The lesion was surgically removed and no recurrence has been noticed for more than 1 year.

Histopathology

The biopsy specimen was fixed in 10% buffered formalin and embedded in paraffin. The sections were stained with hematoxylin and eosin (H&E) for routine histopathological diagnosis and revealed a proliferation of stratified squamous epithelium with hyperkeratosis and parakeratosis arranged into finger-like projections covering connective tissue papillae. Elongated rete-ridges at the edge of the lesion converged toward the center. A prominent granular cell layer exhibited coarse and clumped kerato-hyalin granules. Koilocytotic changes were seen in the superficial layer.

Immunohistochemistry

Paraffin-embedded tissues were serially sectioned at 4- μ m thickness. After de-paraffinization, sections were stained for HPV monoclonal mouse antibodies and heated in a water bath with DAKO Target Retrieval Solution for 40 min. After washing with TBS, it was incubated with mouse monoclonal anti-human papillomavirus antibodies Clone K1H8, DAKO (types 6, 11, 16, 18, 31, 33, 42, 51, 52, 56 and 58) in dilution 1:50 with DAKO antibody diluents for 60 min at room temperature. The samples were then incubated for 30min with DAKO LASB system at room temperature. Visualization of the reaction was acquired with AEC solution. After that, staining with Mayer's hematoxylin was performed. Positive and negative controls were run in parallel. Our case demonstrated the presence of the group-specific antigen in the superficial parakeratinized and granular cells. The distribution pattern of antigen-positive cells was mostly consistent with that of koilocytotic cells in the lesion.

Discussion

Warts are one of the most frequently encountered lesions of the skin. Although not common, the prevalence of involvement of the oral mucous membrane is substantial. VV on the soft palatal mucosa is very rare.¹

Typical cases of oral VV are sessile, with a broad base, and the surfaces are rough and papillary with small clefts and pits. Oral VV varies in whiteness according to the degree of surface keratinization. The cases studied by light microscopy show a well-circumscribed epithelial lesion exhibiting spire-shaped projections of keratin and acanthotic

epithelium with perinuclear vacuolation of some cells (koilocytic cells) of the granular layer.¹ The elongated rete-ridges point towards the center of the lesion. Our case was shown similar histopathological changes.

Human papillomavirus are a group of genetically related, epitheliotropic DNA viruses. HPVs induce proliferative changes, both benign and malignant, in the stratified squamous epithelium in epidermis and mucous membranes.^{2,12} Over 70 genotypes of human pathogenic HPV have been identified. Most are found in benign proliferations, although several are associated with malignancies. As far as the oral mucosa is concerned, numerous HPV types (including subtypes 1, 2, 4, 6, 7, 11, 13, 16, 18, 32 and 57) have been detected in benign, premalignant, and malignant lesions.^{2,12} HPV antigen has been detected in 55-75% of oral VV cases.^{2,4,5,10,11} VV is induced by HPV 2 and 4, while condyloma acuminatum and the oral squamous papilloma are associated with HPV 6 and 11.¹³ HPVs 13 or 32 cause focal epithelial hyperplasia.^{1,2,8,9,12} Malignant tumours, particularly squamous cell carcinoma of the oropharynx-tonsillar region, have been associated with HPV 16.^{2,9,12} The oral lesions of skin-related HPV types are localized predominantly to the lip, palate, buccal mucosa, tongue and gingiva with decreasing frequency; in contrast those of mucosal HPV types are located in the palate, lip, tongue, buccal mucosa and gingiva.⁹ Our case had an oral VV on the soft palatal mucosa. Presence of HPV in the oral cavity has been demonstrated by means of electron microscopy, immunohistochemistry and molecular biology methods. We could use immunohistochemistry for our case.

In summary, we report a case of an uncommon soft palatal verruca vulgaris associated with HPV infection, which was analyzed by histopathology. The association of oral lesions with HPVs should be extensively examined to clarify the pathogenesis of HPV infection in the oral cavity.

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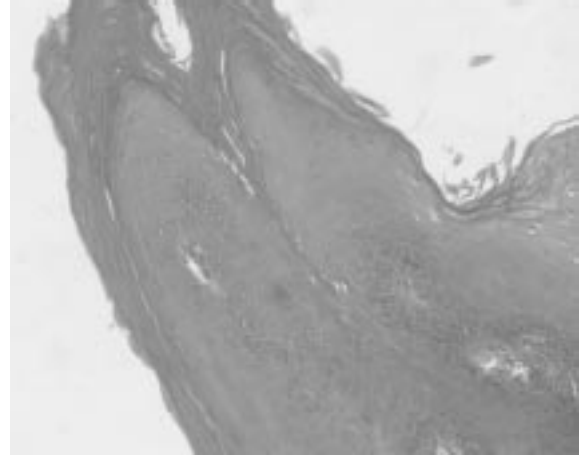


Fig 1. Verruca vulgaris demonstrating a thickened stratum corneum and stratum granulosum (H&E, X100).

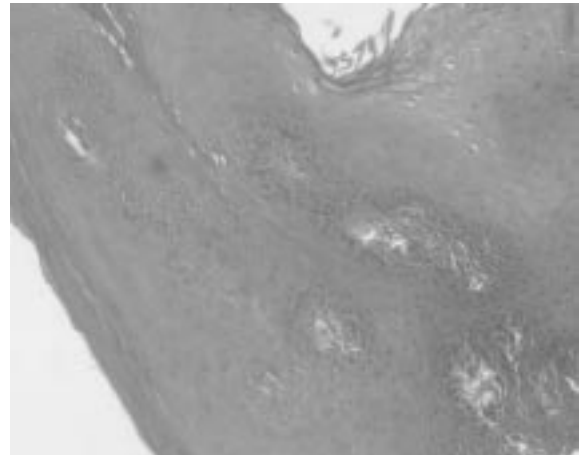


Fig 2a. Koilocytotic cells in superficial layer of oral verruca vulgaris (H&E, X200);

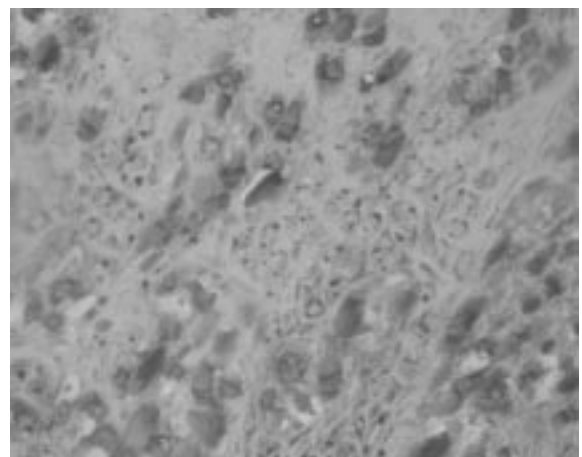


Fig 2b. Positive nuclei staining with monoclonal antibodies K1H8 of HPV (HPV antigen, Dako-PAP, USAx400)