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Intraoral molluscum contagiosum in a young immunocompetent patient

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Molluscum contagiosum (MC) is a contagious disease caused by a virus of the poxvirus family. In children, the disease commonly manifests as a variable number of discrete umbilicated papules on the face and trunk. In healthy and immunosuppressed adults, the disease appears on or near the genital organs and is often sexually transmitted. MC involving the intraoral mucosa has been documented but is rare. We report a case of MC involving the oral mucosa exclusively and discuss the main clinical, histopathologic, and therapeutic characteristics, comparing the findings with cases of this rare oral presentation described in the literature. (Oral Surg Oral Med Oral Pathol Oral Radiol 2012;114:e57-e60)

Molluscum contagiosum (MC) is a self-limited viral infection that commonly affects the skin. Involvement of mucous membranes is rare. The disease can affect individuals of any age, but its prevalence is higher among children, sexually active adults, and immunocompromised individuals (e.g., patients with acquired immunodeficiency syndrome).[1-4]

MC can be transmitted by direct contact with an infected person, fomites, and self-inoculation. In children, lesions are commonly found on the face, trunk, and extremities, whereas in adults the genital region and adjacent areas are the most affected.[5] In addition, nonsexual transmission has been reported in adults and generally occurs at sites of trauma or other skin lesions.[6-8]

Clinically, the infection manifests as single or multiple asymptomatic, small (2-6 mm), flesh-colored or pink papules with a central depression. The infection is generally self-limiting and may resolve spontaneously within ~18 months of its emergence. Some lesions may not regress and require auxiliary treatment, such as curettage, cryotherapy with liquid nitrogen, electrocautery, and incision of the papules.[9]

Although involvement of mucous membranes has been reported in the literature, cases in which the disease affects oral soft tissues are extremely rare. We report a case of intraoral MC in an immunocompetent young patient and discuss the clinical features and treatment of this rare presentation, comparing the present case with those described in the international literature.

CASE REPORT

A 13-year-old mulatto girl was seen at the Oral Diagnosis Service of the Department of Dentistry, Federal University of Rio Grande do Norte. The patient was referred by another professional owing to the presence of multiple lesions on the lower labial mucosa whose diagnosis was not defined. Extraoral physical examination revealed no anomalies. Intraoral

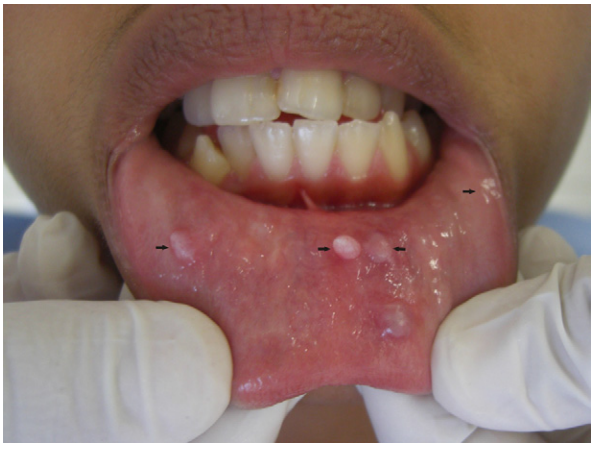

Fig. 1. Intraoral appearance of the lesion showing some flesh-colored exophytic papules on the lower lip mucosa (*arrows*).

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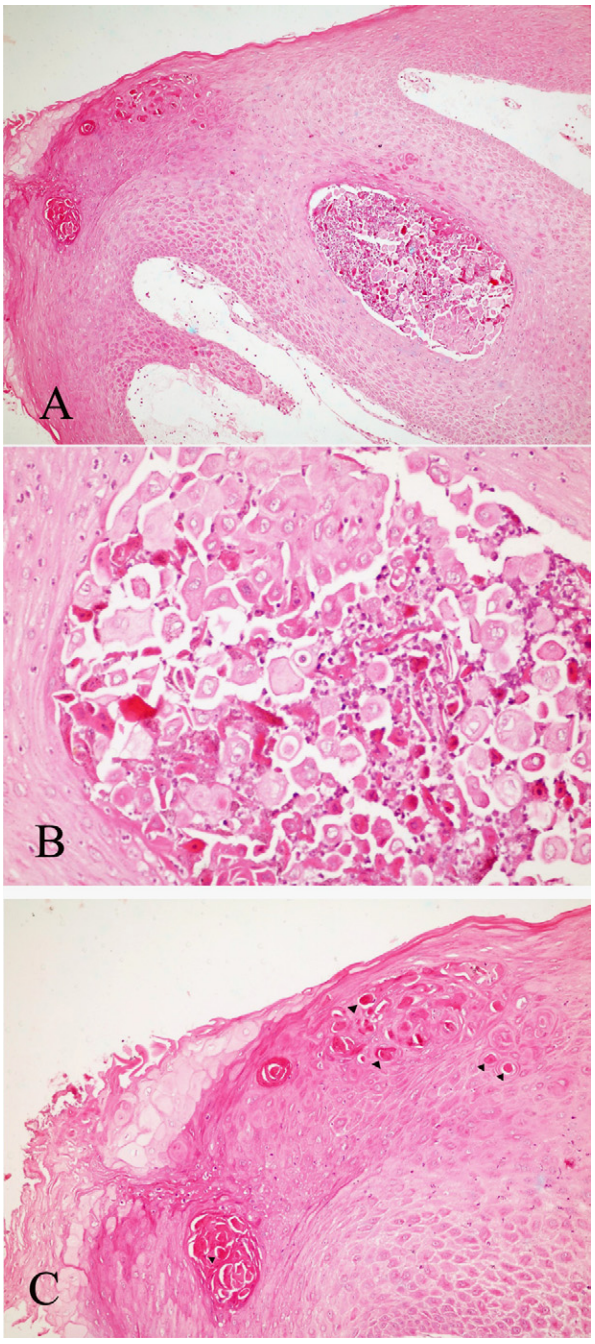

Fig. 2. **A,** Pronounced acanthosis with formation of centers of the hyperplastic downgrowths (hematoxylin-eosin [HE], ×200). **B,** Centers of the hyperplastic downgrowths contained central foci of virally altered and degenerating epithelial cells, as well as cellular debris (HE, ×400). **C,** Superficial portions of the epithelium with cells contained large eosinophilic cytoplasmic inclusions consistent with molluscum bodies (*arrowheads*) (HE, ×400).

clinical examination showed the presence of 4 asymptomatic sessile papules varying in size from 0.3 to 0.5 cm in greatest diameter on the lower labial mucosa. The surface color varied from pink to whitish and was smooth without central umbilication (Figure 1). The patient reported that the lesions had appeared 3 years before and had been already removed twice. No similar lesion was detected on the skin, history of sexual abuse was denied by the patient, and acute or chronic systemic diseases were excluded. Furthermore, blood tests were carried out to analyze the patients's immune status. All values were within the normal limits.

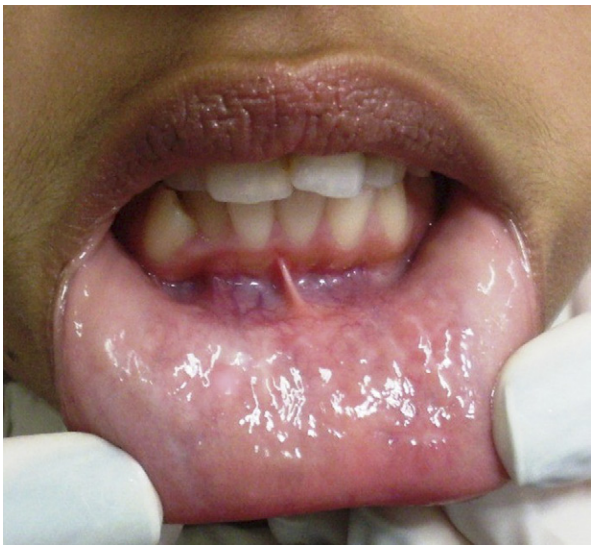

Fig. 3. Patient with no sign of lesion after 12 months.

On the basis of this clinical presentation, the diagnostic hypothesis was Heck's disease. All lesions were completely excised and submitted for histopathologic analysis. The analysis revealed a proliferation of acanthotic stratified squamous epithelium (Figure 2, *A*). The surface was corrugated and continuous with bulbous endophytic epithelial projections. The centers of the hyperplastic downgrowths contained central foci of virally altered and degenerating epithelial cells as well as cellular debris (Figure 2, *B*). The virally altered cells contained large eosinophilic cytoplasmic inclusions consistent with molluscum (Henderson-Patterson) bodies (MCB). MCB are believed to be collections of molluscum virus particles. In the superficial portions of the epithelium, large MCB were noted in the cytoplasm of vacuolated epithelial cells (Figure 2, *C*). The underlying connective tissue was scarce and of the loose fibrous type. Moderate mononuclear inflammatory infiltration with moderate vascularization characterized by the presence of blood vessels of variable caliber and some lymphatic vessels was observed. The histologic diagnosis was intraoral MC. The patient was kept under clinical follow-up and had no lesions 12 months after the treatment (Figure 3).

DISCUSSION

MC is a common skin infection in children, accounting for ~8.6% of all skin infections in patients <16 years old.[3] The MC virus belongs to the pox group and measures 300 nm in its greatest diameter.[10] The virus is usually limited to the epidermis of human skin, where

Table I. Cases of intraoral molluscum contagiosum reported in the literature

Reference	Year	Age (y)/sex	Intraoral location	Skin involvement	Skin condition	Treatment
Schiff[13]	1958	43/F	Labial mucosa	No	Normal	Not reported
Laskaris and Sklavounou[11]	1984	27/M	Buccal mucosa	Trunk	Normal	Excisional biopsy
Svirsky et al.[18]	1985	32/M	Lower labial mucosa	No	Normal	Excisional biopsy + spontaneous involution
Whitaker et al.[10]	1991	52/M	Hard palate	Suprapubic	Normal	Excisional biopsy + spontaneous involution
Fornatora et al.[16]	2001	52/M	Maxillary gingiva	No	HIV+	Excisional biopsy
Scherer et al.[17]	2009	70/F	Retromolar region	No	Normal	Excisional biopsy
Present case	2011	13/F	Lower labial mucosa	No	Normal	Excisional biopsy

it stimulates mitosis of basal epidermal cells and replicates in the cytoplasm of the prickle and granular layers of infected cells.[11] Although involvement of mucous membranes has been reported, infection of oral soft tissues is rare.[11-13] In the present case, the oral mucosa was the only site affected in this immunocompetent young patient who exhibited multiple recurrent lesions.

The usual incubation period for MC ranges from 2 weeks to 3 months.[14] Most lesions are asymptomatic and manifest as 2–5-mm elevated papules, which typically have the color of adjacent skin. Individual papules may show a central crater-like depression filled with desquamated keratin.[10,14] Although asymptomatic papules are observed in most cases, complications are relatively common and include secondary bacterial infections and foreign body reactions.[15] No complications were observed in the present patient, who presented with a cluster of multiple flat-topped pink-white smooth-surfaced papules, a finding suggestive of human papillomavirus infection, possibly Heck's disease.

Some cases of MC manifesting in the oral mucosa have been previously reported, but involvement of this site is still considered to be rare.[16] Including the present case, there are only 7 cases (Table I) reported in the literature. The report published by Barsh (1966)[12] was excluded from these cases, because the clinical description and histopathologic characteristics were considered to be incompatible with a diagnosis of MC. In that case, the patient presented with a painful vesicular rash on the left side of the mucosa and was treated with penicillin V. The most likely diagnosis was infection with a member of the herpesvirus family. Among the remaining 6 cases, only that reported by Fornatora et al. (2001)[16] describes oral MC in a human immunodeficiency virus–positive patient. Pale or erythematous papules exhibiting a similar histopathologic pattern were described in all studies. Both the attached and the unattached mucosa were cited as intraoral sites, including the lip, cheek and palatal mucosa, gingiva, and retromolar region.

According to Scherer et al. (2009),[17] the clinical features of MC in immunocompromised individuals differ from those seen in immunocompetent patients. The former often demonstrate hundreds of cutaneous lesions that rarely resolve spontaneously and are difficult to treat with conventional therapy.[14] In contrast, most cases of MC in immunocompetent patients spontaneously resolve within 6-9 months and recurrence is rare.[16] Lesions that fail to resolve are amenable to local treatment with curettage, electrocautery, or cryotherapy.[10,14] In the present case, the lesions did not resolve within the interval reported in the literature, with the patient presenting lesions for ~3 years.

The present case differs from the other cases reported by the young age of the patient, with only adults cited in the other studies. However, similarly to the findings of other investigators,[13,16-18] the present patient had no skin lesions. Treatment consisted of an excisional biopsy of the lesion, and no other complementary therapies were required.

MC lesions have a characteristic histopathologic appearance. The orthokeratotic, acanthotic, stratified squamous epithelium with a prominent granular layer proliferates into the underlying dermis, with the consequent formation of characteristic eosinophilic intracytoplasmic inclusion bodies (Henderson-Patterson inclusions/MCB) that occupy the stratum spinosum and extend through the stratum corneum. The MCB contain the viral particles[10,19,20] and start as small eosinophilic structures in the cells above the basal layer. As they approach the surface, they increase in size and may become larger than the invaded cells. Moreover, as the stratum corneum disintegrates to release the molluscum bodies, a central crater usually is formed on the surface.[21] Although the present case did not present evidence of a crater-like depression, histopathologic findings—MCB and acantholysis of stratified squamous epithelium—were essential for the definitive diagnosis of this entity.

We describe the seventh report of a case of intraoral MC. The disease has been reported to involve fixed and movable mucosa associated or not with skin lesions and

to affect healthy and HIV-seropositive adults. The present case differs from those reported so far because the patient was only 13 years old and presented recurrent lesions that had not regressed over the preceding 3 years despite her immunocompetent status.

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