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REVIEW

Update on the Treatment of Molluscum Contagiosum in Children☆

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Abstract Molluscum contagiosum is one of the most common viral infections in childhood. It is a benign and usually self-limiting infection, but its treatment in children can be challenging, particularly when the patient presents multiple lesions or when lesions are symptomatic or highly visible. Several treatment options exist. Choice of treatment depends on the number and location of lesions, the prior experience of the treating physician, and the preferences of the child's parents or carers. This article provides an update on treatment options for molluscum contagiosum, with a particular focus on immunocompetent pediatric patients.

PALABRAS CLAVE
Moluscos contagiosos;
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Curetaje;
Crioterapia

Actualización sobre el tratamiento de moluscos contagiosos en los niños

Resumen El molusco contagioso es una de las infecciones virales más frecuente en los niños. Aunque se trata de una infección de curso benigno y generalmente autolimitada, el tratamiento puede resultar complicado en la edad pediátrica cuando las lesiones son muy numerosas, están en áreas visibles, o producen molestias. Existen diversos tratamientos disponibles, cuya selección depende del número y localización de las lesiones, de la experiencia del médico que las trata, y de las preferencias de los padres o cuidadores. Este artículo proporciona una actualización sobre las diferentes terapias contra los moluscos contagiosos particularmente enfocadas a los pacientes pediátricos.

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Introduction

Molluscum contagiosum (MC) is caused by a DNA virus of the genus *Molluscipoxvirus*, family Poxviridae. Currently, this virus is categorized into 2 types (MCV-1 and MCV-2) and 4 distinct genotypes.[1] Genotype 1 accounts for 98% of cases recorded in the United States, genotypes 2 and 3 are more prevalent in Europe and Australia and in patients with human immunodeficiency virus 1, and genotype 4 is rare.[2] MC is one of the 50 most frequent diseases worldwide.[3] In children its annual incidence ranges from 2% to 10%[4] and its prevalence from 5.1% to 11.5%.[5] However, these rates vary significantly depending on the population studied. MC can be transmitted by direct contact, fomites, and self-inoculation.[1] The incubation period ranges from 14 days to 6 months. Unlike herpesvirus, MC does not persist as a latent infection. The review of the literature of an Australian survey of MC patients revealed that it mainly affects school-aged children who have visited a swimming pool.[6] However, there is no documented evidence demonstrating that transmission can be effectively prevented by keeping children out of pools.[7] Other variables such as direct contact, the presence of fomites, and living in tropical climates are also associated with higher rates of infection.[6] Another study determined that individuals who share a bath sponge or towel with an infected patient have a 3-fold greater relative risk of infection than those who do not share these items.[8] Certain preventive measures (eg, bathing children alone, avoiding shared use of sponges and towels, and covering MC lesions) may therefore be effective.

Clinically, MC is characterized by skin-colored papules and/or nodules with central umbilication. In some patients, these lesions may be surrounded by a halo of eczema, known as molluscum dermatitis.[9] This is the result of a hypersensitivity reaction to the viral antigen[2] and can evolve into an abscess or a less morphologically typical lesion (Fig. 1). While any area of the skin or mucous membranes can be infected, lesions on the soles, palms, and mucous membranes are rare.[6] Children often develop associated atopic dermatitis (AD). In a retrospective medical chart review of 696 pediatric MC cases, 259 (37.2%) had a history of AD and 38.8% had molluscum dermatitis.[9] In patients with underlying AD or other conditions associated with compromised immunity, lesions tend to be more numerous and longer lasting.[2]

In immunocompetent patients, skin infections caused by MC are benign and self-limiting. There are multiple treatment options available, none of which is significantly more effective than the other.[10] In selecting a treatment for pediatric patients, the priorities should be to avoid pain and minimize the risk of scarring. Furthermore, it is essential to reassure parents and inform them as to the expected course of the disease and treatment outcome. A survey of parents of children with MC found that they were mainly concerned about scarring, pruritus, the possibility of contagion, pain, and the effects of treatments.[6] However, children's quality of life was not affected.

Types of Treatment for MC

Treatment options for MC lesions are listed in Table 1. Those that have been used in pediatric patients are described below.

Destructive Methods

Destructive methods are the most commonly used methods in routine practice and result in the destruction of keratinocytes infected by the MC virus. These simple and

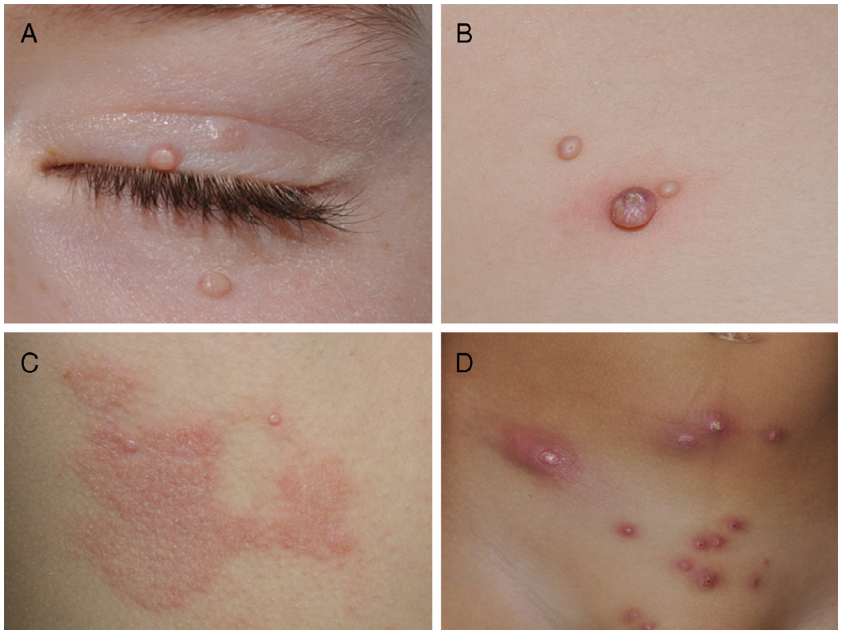

Figure 1 Different clinical manifestations of molluscum contagiosum (MC). A, Pink papules on the eyelids with typical central umbilication. B, Sessile lesion of less typical morphology next to other lesions more characteristic of MC. C, Eczematiform reaction (molluscum dermatitis) surrounding MC lesions. D, Inflamed and abscessed lesions on the abdomen.