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DERMATOLOGY CLINIC
What's Your Diagnosis?

Umbilicated Papules in a 5 Year Old Boy

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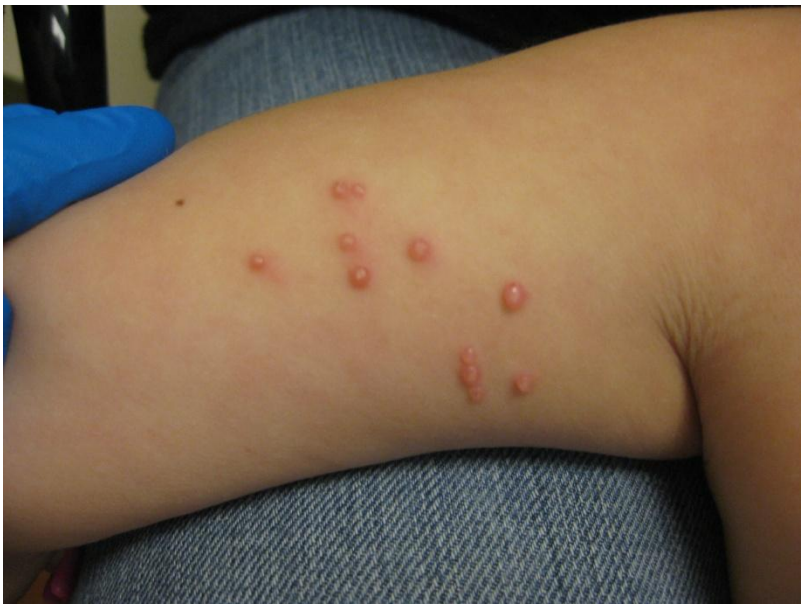
A 5 year old healthy male, with mild eczema that flares in the winter, presents to your office with discrete, flesh-colored, indurated bumps on his left trunk, left inner arm and peri-axillary area. Mom noticed them in the bath earlier that week and is concerned because they are new and spreading. One of the lesions is much larger, with a red, scaly ring around it and a central crust. The child is in kindergarten, takes swimming lessons in a public pool and shares a bathroom with his siblings. His vaccinations are up to date. What is your diagnosis and how do you counsel his mother about management?



MOLLUSCUM CONTAGIOSUM

Molluscum Contagiosum (MC) is a benign, self-limiting skin infection caused by a poxvirus. MC has a linear, double-stranded DNA structure, cannot be grown in tissue culture, and is limited to the human host. It is not a wart. Unlike warts (HPV), MC does not have a latent period, so once a lesion resolves or is removed, it is gone and the virus can no longer be transmitted.

MC is very contagious through direct skin-to-skin contact or skin-to-fomite contact. Hence, it is most common in school-age children under 8 years of age, who sleep, bathe, live and play in close proximity and often direct contact with similar aged, exposed or infected children. The infection does temporarily live on unwashed towels, toilet seats and toys. There is controversy, as to whether or not MC is transmissible through public swimming pools, and it is probably related to fomites in and around the pool (kick-boards, pool noodles, ladders, towels). Autoinoculation is the most common mode of spread, and explains why the lesions tend to be clustered on body parts that naturally rub each other.

MC lesions tend to spread more rapidly in children with atopic dermatitis. This might be due to the suppressed T helper cell response to skin infection in atopic patients, which is required for the body to recognize and kill the MC virus. It might also have to do with the impaired skin barrier, facilitating viral inoculation, or the chronic use of topical immunosuppressants (corticosteroids, calcineurin-inhibitors), that prevent a host immune-response to the virus.

MC is especially common in immunocompromised patients, including children with HIV. Their presentation is more severe and involves more unusual sites, like scalp and face. Anogenital lesions are fairly common in healthy kids with MC. While MC is considered an STD in adults, because it is transmissible by direct skin-to-skin contact during sex, it is not cause for concern of sexual abuse in kids. It is not necessary to contact child protective services upon discovery of anogenital MC lesions, unless parental or child abuse screening suggests otherwise.

MC presents as discrete, often clustered, flesh-colored or pearly, indurated papules. They are commonly found in flexural areas, trunk and extremities. Most lesions have an umbilicated (belly button-like) central dell. They range in size from 2mm to 10mm. The largest lesions are usually seen in immunocompromised patients, but it is common for a healthy patient to have a single, larger, red, weeping, prurulent or crusted ‘mother’ lesion. This usually represents a lesion that is resolving on its own. MC has an incubation period of 2 weeks to 6 months. Left untreated, the benign bumps can last for months to years. A surrounding pink, eczematous dermatitis can develop around the individual lesions, even in patients without a history of atopic dermatitis. Sometimes this suggests the heralding of the host immune response. However, scratching of this itchy rash can lead to autoinoculation of the MC, as well as secondary bacterial infection.

Inflammation of eyelid and conjunctival MC lesions can lead to superficial punctate keratitis or corneal scarring. While the rash resolves once the viral infection is gone, it is often necessary to treat the 'molluscum dermatitis' to prevent complications.

Spontaneous clearing of MC lesions can take years, and it is not generally dangerous to leave them alone to do so. Unlike chicken pox, they do not tend to scar. However, they can spread and grow large, be cosmetically disfiguring for months to years, and the surrounding dermatitis can become uncomfortably itchy, painful and secondarily infected. Moreover, schools tend to want them treated, to prevent transmission to other students. Traditional treatment modalities include physical removal or destruction of the individual MC lesions with cryotherapy (liquid nitrogen), curettage and/or extraction, each of which can be painful and are best performed using topical anesthesia. In-office application of cantharidin, an extract derived from the blister beetle *Cantharis vesicatora*, can be applied to individual lesions for up to 6 hours and then removed with soap and water. This results in blistering of the skin, which destroys the virus-infected cells or, at least, facilitates self-extrusion of the MC lesions from the skin. It is painful once the skin blisters, and it can cause post-inflammatory hyperpigmentation that lasts for months. Other suggested treatment modalities include keratolytics (salicyclic acid, tretinoin, potassium hydroxide), topical cytotoxic therapy (podophyllotoxin), tape stripping, duct tape occlusion, topical cidofovir, oral cimetidine, pulsed-dye laser, candida antigen immunotherapy or imiquimod cream. Imiquimod stimulates the release of pro-inflammatory cytokines by T1 helper cells, with the theoretic intention of triggering an immune response to the MC virus. While it can work well for treating some types of HPV warts, it is not specific for the MC virus. It can cause significant irritation and it is not particularly efficacious in clearing the MC lesions.

Molluscum contagiosum is a common, pediatric viral skin infection that is easily transmitted to other children through direct skin to skin contact. Parents rarely contract the infection. It can be transmitted via shared, unwashed towels, washcloths, sponges. It is best not to bathe infected kids together with unaffected siblings. Keep used bathroom towels separate, until washed. Swimming lessons are safe and children can go to school without worrying about infecting classmates. If the lesions are easy to cover with clothing, then do so for younger children. The itchy, 'molluscum dermatitis' can be managed with short courses of topical steroids and oral antihistamines. If pediatricians and general practitioners do not have the equipment to treat the MC lesions in office, consider referring the child to a dermatologist.

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