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Podiatry Today

Dermatology Diagnosis: Treating A Child With Multiple, Mildly Pruritic Papules

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An 11-year-old boy presents to the clinic with a chief complaint of multiple bumps on his right leg and foot. He reports the lesions have been present for almost two months and appear to be increasing in number and size. The boy did not see his pediatrician or family physician for this condition.

The patient says the lesions started as very small bumps and they itched but not too badly. After scratching one of the bumps, the boy says the bump got bigger and new bumps occurred around the area in a few days or so. After further questioning, the patient and his mother stated that he had no known exposure to any chemicals, paints, toxins, irritants or other potential allergens and was taking no medications, vitamins or supplements. The patient also has no known allergies to any medications or environmental agents. No one else in his household or within his family had any similar skin conditions.

What Does The Physical Examination Reveal?

The physical examination revealed a large number of small, firm, dome-shaped, centrally umbilicated papules on the right lower leg. These epidermal papules have a smooth and waxy appearance and are flesh-colored. The patient has a similar papule on the second toe. The lesions ranged in size from 2 mm to 4 mm in diameter and the largest one was on the toe. There were no skin color changes or edema. At the time of the visit, none of the lesions was symptomatic. However, they were occasionally mildly pruritic.

Careful examination found no other similar appearing lesions on the upper extremities or torso region. There were no other obvious dermatological findings other than the ones noted on the initial examination. There were no other positive findings during the rest of the physical examination.

Key Questions To Consider

1. What essential question does one still need to ask in order to help make the diagnosis?
2. What is the tentative diagnosis?
3. Can you list at least three differential diagnoses?
4. What features of this condition differentiate it from other conditions in your differential diagnosis?
5. What is the suitable treatment of this condition?



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Answering The Key Diagnostic Questions

1. Have you had any close contact with other children prior to noticing this condition and do you participate in any organized, close contact sports such as wrestling?
2. Molluscum contagiosum
3. Verruca plana (flat warts), verruca vulgaris, keratoacanthosis, papular granuloma annulare, folliculitis, miliaria, varicella and lichen planus
4. Molluscum contagiosum is characterized by individual papular lesions that are discrete, smooth and distinctly dome-shaped. They are generally skin-colored with an opalescent or slightly transparent

quality. The central depression or umbilication is filled with a white, waxy curd-like core.

5. Cryotherapy, curettage, topical salicylic acid, topical urea or imiquimod. In a few cases, no treatment is necessary.

What You Should Know About Molluscum Contagiosum

Molluscum contagiosum virus (MCV) is a common large, double-stranded DNA poxviridae infection. It presents as small papules, usually ranging from 2 to 6 mm in diameter although they can be up to 15 mm in diameter. The umbilicated, firm and dome-shaped papules may occur in children, most commonly between the ages of 2 and 12, sexually active individuals and patients with human immunodeficiency virus. Children with atopic dermatitis appear to have a slightly higher incidence of molluscum contagiosum infections and more severe reactions, but this relationship is not clear.

The virus proliferates within keratinocytes and forms intracytoplasmic inclusions called molluscum bodies or Henderson-Patterson bodies. This condition is contagious and about one-third of children have symptoms or secondary reactions such as pruritus, dermatitis, bacterial superinfections or scars. Around 10 to 17 percent of patients develop eczema or inflammation around individual lesions.

Patients with pruritus autoinoculate the virus through scratching and the spread of the virus among children is rapid and easy. Transmission reportedly occurs through direct skin contact and has occurred among: wrestlers and athletes in other sports with direct skin to skin contact; patients of infected surgeons; and children sharing baths, towels, gym equipment, clothes and other contaminated fomites. The average incubation time is between two and seven weeks.

The lesions in children arise mainly on the extremities and trunk area. In adults, the lesions tend to be located on the lower abdominal wall, inner thighs and genitalia. Lesions are very rare on the palms and soles but I have seen two cases of giant molluscum (greater than 1 cm in diameter) on the plantar sole.

One would diagnose molluscum contagiosum via classical clinical findings. Clinicians should obtain a biopsy on lesions for a definitive diagnosis. The differential diagnosis includes verruca plana (flat warts), verruca vulgaris, keratoacanthosis, papular granuloma annulare, folliculitis, miliaria, varicella and lichen planus.

Molluscum contagiosum is far more common, dome-shaped and more papular than flat warts. They usually have an umbilicated or indented crater in the central portion of the dome. Verrucae vulgaris are usually drier, warty and are more vascular in nature. Keratoacanthoma are relatively uncommon on the lower legs and feet in younger patients, and are not as smooth and cone-shaped as molluscum contagiosum. Papular granuloma annulare is much more diffuse in nature and does not typically have a cratered dome.

Folliculitis is incorrect because these lesions involve hair follicles and appear much more inflammatory than molluscum lesions. Miliaria crystalline is a sweat retention reaction and is distinct in its clinical presentation. Varicella (chicken pox) may appear similar to molluscum lesions when it is in the crater phase but it is usually more diffuse and progresses to the ulcerative phase very quickly. The child is usually feverish and feels ill, which is uncommon with molluscum contagiosum. The lesions of lichen planus do not have the umbilicated appearance and they are usually easy to distinguish from molluscum contagiosum. One would diagnose lichen planus via biopsy and confirm it through the dermatopathology findings.

A Guide To Prevention And Treatment

Prevention of molluscum contagiosum includes good hygiene, bathing regularly and immediately after close physical contact sports, and avoiding direct contact with anyone who is already infected.

Treatment options for molluscum contagiosum include cryotherapy, curettage, topical acids (podophyllin, trichloroacetic acid, silver nitrate, salicylic acid, urea and lactic acid) or topical imiquimod 5% cream. Some systemic treatments using cimetidine have been recommended. However, in some cases, no treatment is necessary.

Cryotherapy is the preferred method of removing molluscum contagiosum lesion in most patients. I prefer the use of the CryoProbe® unit (CryoSurgical Technology) for these benign skin lesions once one has confirmed the diagnosis as this treatment is painless and effective for most patients. Depending upon the thickness of the lesion, two freeze cycles of 20 seconds are usually required. The lesions may blister slightly and then fall off in a few days to a week. If any lesions remain, one may repeat the process. Two treatment appointments are typically necessary. One may also use liquid nitrogen, either the spray or the dipstick method. However, this modality is much more painful. It is also common to see residual pigmentary changes following the removal of molluscum contagiosum with liquid nitrogen and the discoloration may remain for many months following treatment.

Clinicians may also remove molluscum contagiosum lesions by curettage and one can gently scrape the lesions off. Adolescents and adults usually tolerate this well without anesthesia. However, some patients, especially younger children, complain that the curettage process is very uncomfortable and are less agreeable to this type of treatment as compared to cryotherapy. One may apply Emla[®] (AstraZeneca, lidocaine 2.5%, prilocaine 2.5%) cream 30 to 45 minutes prior to curettage to reduce the amount of discomfort during the procedure. Once one has removed the lesions, the patient can apply a topical antibiotic until the area heals.

A variety of caustic agents have been shown to be effective in the treatment of molluscum contagiosum. Podophyllin, trichloroacetic acid, silver nitrate, potassium hydroxide, salicylic acid, urea and lactic acid may all be too harsh for younger children. One option is applying salicylic acid (17%) in collodion daily until an inflammatory response occurs. Other methods of treatment I have employed are daily application of products containing urea 50% gel (Keralac[®], Doak) or lactic acid 10% cream (Lactinol[®], Pedinol), which is applied twice a day. This process is less caustic and the parent can do it at home.

Imiquimod topical 5% cream (Aldara[®], 3M) is reportedly useful in removing multiple lesions of molluscum contagiosum. One can apply the cream sparingly to each lesion three times a week for eight to 12 weeks. No cover is necessary during treatment. This form of treatment is relatively expensive in comparison to the other treatments and may not have any additional benefits in the long run.

In Summary

Molluscum contagiosum are benign lesions that one may mistake for warts or other conditions on the lower extremities. They present with a typical clinical appearance and one can remove them with cryotherapy, curettage or other topical techniques. Advise patients that these are benign but contagious lesions. Also advise them to have a periodic skin examination to prevent recurrence of the infection.



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