

# Erythematous Pedunculated Plaque on the Dorsal Aspect of the Foot

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A 13-year-old adolescent girl presented for evaluation of a lesion on the dorsal aspect of the right foot of 1 week's duration. She had a history of acne vulgaris and seasonal allergic rhinitis. She previously had noticed a persistent, small, flesh-colored bump of unknown chronicity in the same location, which had been diagnosed as a skin tag at an outside clinic. She denied any prior treatment in this area. Approximately a week prior to presentation, the lesion became painful, larger, and darkened in color before draining yellowish fluid. Due to concern for superinfection, the patient was prescribed cephalexin by her pediatrician. Dermatologic examination revealed a 1-cm, violaceous, pedunculated plaque with hemorrhagic crust on the dorsal aspect of the right foot with surrounding erythema and tenderness.

## WHAT'S YOUR DIAGNOSIS?

- abscess
- amelanotic melanoma
- molluscum contagiosum
- pyogenic granuloma
- Spitz nevus

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## THE DIAGNOSIS: Molluscum Contagiosum

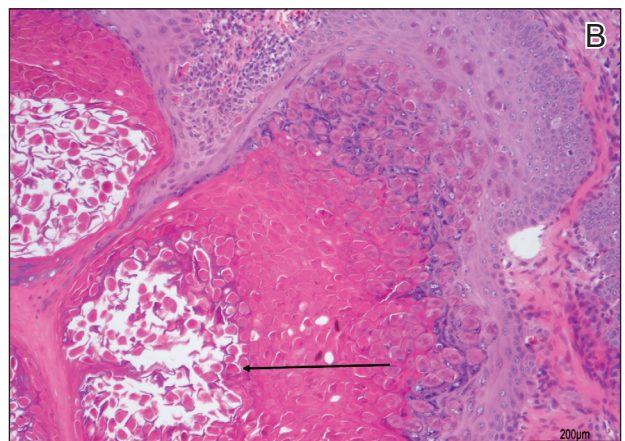
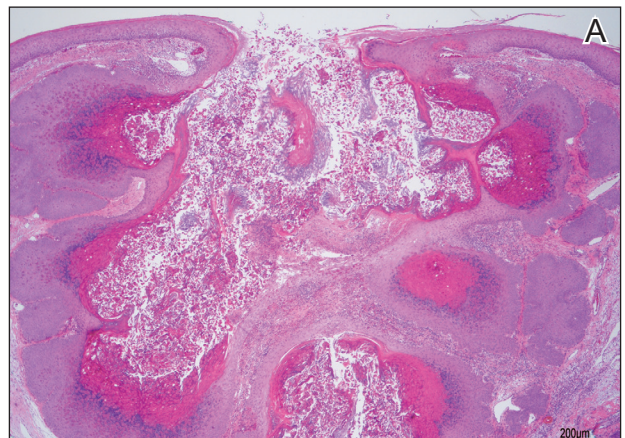
A tangential shave removal with electrocautery was performed. Histopathology demonstrated numerous eosinophilic intracytoplasmic inclusion bodies (Figure), confirming a diagnosis of molluscum contagiosum (MC).

Molluscum contagiosum is a common poxvirus infection that is transmitted through fomites, contact, or self-inoculation.<sup>1</sup> This infection most frequently occurs in school-aged children younger than 8 years<sup>1-3</sup>; peak incidence is 6 years of age.<sup>2,3</sup> The worldwide estimated prevalence in children is 5.1% to 11.5%.<sup>1,3</sup> In children cohabitating with others infected by MC, approximately 40% of households experienced a spread of infection; the risk of transmission is not associated with greater number of lesions.<sup>4</sup> In adults, infection most commonly occurs in the setting of immunodeficiency or as a sexually transmitted infection in immunocompetent patients.<sup>3</sup> Molluscum contagiosum infection classically presents as 1- to 3-mm, flesh- or white-colored, dome-shaped, smooth papules with central umbilication.<sup>1</sup> Lesions often occur in clusters or lines, indicating local spread. The trunk, extremities, and face are areas that frequently are involved.<sup>2,3</sup>

Atypical presentations of MC infection can occur, as demonstrated by our case. Involvement of hair follicles by the infection can result in follicular induction.<sup>1,5</sup> Secondary infection can mimic abscess formation.<sup>1</sup> Inflamed MC lesions demonstrating the “beginning of the end” sign often are mistaken for primary infection, which is thought to be an inflammatory immune response to the virus.<sup>6</sup> Lesions located on the eye or eyelid can present as unilateral conjunctivitis, conjunctival or corneal nodules, eyelid abscesses, or chalazions.<sup>1</sup> Giant MC is a nodular variant of this infection measuring larger than 1 cm in size that can present similar to epidermoid cysts, condyloma acuminatum, or verruca vulgaris.<sup>1,7</sup> Other reported mimicked conditions include basal cell carcinoma, trichoepithelioma, appendageal tumors, keratoacanthoma, foreign body granulomas, nevus sebaceous, or ecthyma.<sup>1,3</sup> Molluscum contagiosum also has been reported to present as large ulcerative growths.<sup>8</sup> In immunocompromised patients, deep fungal infection is another mimicker.<sup>1</sup> Lesions on the plantar surfaces of the feet often are misdiagnosed as plantar verruca and present with pain during ambulation.<sup>9</sup>

The diagnosis of MC is clinical, with additional diagnostic tools reserved for more challenging situations.<sup>1</sup> In cases with atypical presentations, dermoscopy may aid diagnosis through visualization of orifices and vascular patterns including crown, radial, and punctiform vessels.<sup>10</sup> Biopsy or fine-needle aspiration also can be utilized as a diagnostic tool. Histopathology often reveals pathognomonic intracytoplasmic inclusions or Henderson-Paterson bodies.<sup>8,10</sup>

The appearance of MC can mimic other conditions that should be included in the differential diagnosis. Pyogenic granuloma often presents as a benign red papule that may grow rapidly and become pedunculated, sometimes with bleeding and crusting, though histology reveals groups of proliferating capillaries.<sup>11</sup> More than half of amelanotic melanomas present in the papulonodular form as vascular or ulcerated nodules, and others may appear as erythematous macules. Diagnosis of amelanotic melanoma is made through histologic examination, which reveals atypical melanocytes in nests or cords, in conjunction with immunohistochemical stains such as S-100.<sup>12</sup> Spitz nevi often appear as round, dome-shaped papules that most commonly are red, pink, or flesh-colored. They appear histologically similar to melanoma with nests of atypical melanocytes and nuclear atypia.<sup>13</sup>



A and B, Histopathologic examination of the molluscum contagiosum plaque after shave removal demonstrated pathognomonic intracytoplasmic inclusion bodies (black arrow)(H&E, original magnifications  $\times 4$  and  $\times 20$ ). Reference bars indicate 200  $\mu\text{m}$ .

A variety of treatment modalities can be used for MC including cantharidin, curettage, and cryotherapy.<sup>14</sup> Imiquimod no longer is recommended due to a lack of demonstrated superiority over placebo in recent studies as well as its adverse effects.<sup>3</sup> Topical retinoids have been recommended; however, their use frequently is limited by local irritation.<sup>3,14</sup> Cantharidin is the most frequently utilized treatment by pediatric dermatologists. Most health care providers report subjective satisfaction with its results and efficacy, though some side effects may occur including discomfort and temporary changes in pigmentation. Treatment for MC is not required, as the condition is self-limiting.<sup>14</sup> Therapy often is reserved for those with extensive disease, complications from lesions, cosmetic or psychological concerns, or genital involvement given the potential for sexual transmission.<sup>3</sup> Time to resolution without treatment varies and is more prolonged in immunocompromised patients. Mean time to resolution in immunocompetent hosts has been reported as 13.3 months, but most infections are noted to clear within 2 to 4 years.<sup>1,4</sup> Although resolution without treatment occurs, transmission to others and negative impact on quality of life (QOL) can occur and support the need for treatment. Greater impact on QOL was observed in females, those with more lesions, and patients with a longer duration of symptoms. Moderate impact on QOL was reported in 28% of patients (n=301), and severe effects were reported in 11%.<sup>4</sup>

In conclusion, MC is a common, benign, treatable cutaneous viral infection that often presents as small, flesh-colored papules in children. Its appearance can mimic a variety of other conditions. In cases with abnormal presentations, definitive diagnosis with pathology can be important to differentiate MC from more dangerous etiologies that may require further treatment.

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