

CASE REPORT

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Surgical Excision of Multiple Inflamed Molluscum Contagiosum Lesions in a 6-Year-Old Child: A Case Report

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ABSTRACT

Introduction: Molluscum contagiosum (MC) is a benign skin infection that most commonly affects children and is characterized by small umbilicated papules. The disease is generally self-limiting but may cause complications and spread, especially with multiple and inflamed lesions. **Case:** A 6-year-old boy presented with multiple MC lesions on his back and shoulder. The papules were dome-shaped with central umbilication, with some showing inflammation, erosion, and crusting. The diagnosis was confirmed clinically and histopathologically by characteristic molluscum bodies. **Discussion:** Multiple excisions were chosen due to the high number and size (> 5 mm) of lesions, making curettage or cryotherapy less effective. Postoperative treatment included oral clindamycin 150 mg twice daily, acyclovir 5% cream applied twice daily to the wound area, fusidic acid 2% cream applied twice daily to the excision sites, and oral vitamin C 250 mg once daily to support healing. Family education was provided to prevent autoinoculation and transmission. At the one-month follow-up, the wound healed well without new lesions. This approach effectively manages multiple inflamed MC lesions, reduces the risk of secondary infection, and provides favorable cosmetic outcomes. **Conclusion:** Multiple excision is an appropriate treatment for multiple inflamed MC lesions. Histopathological confirmation and family education are crucial for successful therapy and preventing recurrence.

Keywords: Case report, child, excision, inflammation, molluscum contagiosum.

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INTRODUCTION

Molluscum contagiosum (MC) is a benign cutaneous infection caused by Molluscum contagiosum virus (MCV), a member of the Poxviridae family. The virus primarily infects the epidermis without causing systemic viremia; therefore, the infection remains localized to the affected skin.[1] MC is a common cutaneous infection, particularly among children.[1,2]

MCV comprises four genotypes, designated MCV-1 through MCV-4, with MCV-1 being the most prevalent genotype, particularly among children. The virus can evade host immune responses by producing proteins that interfere with interferon activity and various cytokines involved in innate and adaptive immunity.[3–5] This immune evasion enables the virus to persist within the skin for variable periods without being rapidly eliminated by the host immune system.

Transmission of MC occurs primarily through direct contact with infected lesions, autoinoculation from scratching or manipulating existing lesions, or indirect contact with contaminated fomites such as towels, clothing, and toys.[6] The incubation period is variable, ranging from approximately two weeks to six months, and lesions may therefore appear gradually, making it difficult to determine the timing of the initial infection.[5] Clinically, MC typically presents as small, dome-shaped, flesh-colored or pearly-white papules with characteristic central umbilication. The lesions are generally asymptomatic, although some patients may have mild irritation or inflammation. Lesions can develop on various parts of the body, particularly exposed areas such as the face, neck, and extremities. In children, lesions may also commonly occur within skin folds.[2,4]

MC is generally self-limiting, with lesions often resolving spontaneously within several months to several years without treatment. However, the infection may persist for a prolonged period in individuals with impaired immune function, including patients with HIV/AIDS or those receiving immunosuppressive therapy.[5] In such patients, lesions may become more numerous, larger, and more resistant to treatment. In immunocompetent individuals, management is generally conservative, with treatment primarily aimed at removing lesions for cosmetic reasons, preventing autoinoculation and further transmission, and reducing the risk of complications such as secondary bacterial infection. Treatment options include curettage, cryotherapy, topical immunomodulatory agents, and other therapies selected based on clinical circumstances.[6] The therapeutic approach should be individualized based on the patient's age, number and size of lesions, anatomical location, and immune status.

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A comprehensive understanding of the virology, pathophysiology, modes of transmission, and clinical manifestations of MC is essential for accurate diagnosis and effective management. Patient and caregiver education regarding measures to prevent transmission and maintain appropriate skin hygiene is also an integral component of MC management. These measures are especially important for preventing transmission within households and communities, where children are particularly susceptible.

CASE

A 6-year-old boy was brought by his parents to the Dermatology and Venereology outpatient clinic with a chief complaint of nodules on the upper left back that had first appeared approximately three months earlier. Initially, there was only a single small lesion, but it increased progressively over the preceding several weeks. The lesions were neither painful nor pruritic. There were no associated systemic symptoms, including fever, cough, rhinorrhea, dyspnea, nausea, or vomiting. The patient had no previous history of similar lesions. His medical history was unremarkable, with no known allergies, chronic illnesses, or previous surgical procedures. No family history of similar lesions or atopic conditions, including asthma or allergic disease. Before presenting to our clinic, the patient sought medical attention twice at other healthcare facilities and received oral medication and topical ointment; however, no clinical improvement was observed.

On physical examination, the patient was in good general condition and fully conscious (Glasgow Coma Scale 15). His body weight was 20 kg, blood pressure was 100/70 mmHg, pulse rate was 94 beats/minute, respiratory rate was 22 breaths/minute, oxygen saturation was 98% on room air, and body temperature was 36.8°C.

Dermatological examination revealed 18 discrete, well-demarcated, smooth-surfaced, dome-shaped papules measuring 2–6 mm in diameter, with several lesions demonstrating characteristic central umbilication (**Figure 1**). The lesions were distributed over the shoulder and upper arm regions. Some lesions showed superficial erosion with crust formation, while one larger lesion exhibited signs of localized inflammation (**Figure 2**).

Routine laboratory investigations performed prior before the procedure were within normal limits.

Based on the clinical history and physical examination findings, the patient was diagnosed with multiple molluscum contagiosum. The patient was subsequently referred to the Department of Surgery for surgical excision, considering the relatively large number of lesions. Multiple lesion excisions were performed under general anesthesia. Preoperatively, the patient received ceftriaxone 1 g intravenously as antibiotic prophylaxis. All lesions were successfully excised. Histopathological examination revealed molluscum bodies within the epidermis, with no evidence of malignancy (**Figure 3**).

Postoperatively, the patient was prescribed oral clindamycin 150 mg twice daily, acyclovir 5% cream applied twice daily to the wound area, fusidic acid 2% cream applied twice daily to the excision sites, and oral vitamin C 250 mg once daily. The family was advised to maintain proper wound hygiene, avoid scratching the affected areas, and attend regular follow-up visits. At the one-month postoperative follow-up, the surgical wounds had healed well, with no signs of infection or development of new lesions.

DISCUSSION

MC is a superficial cutaneous infection caused by molluscum contagiosum virus (MCV), a member of the Poxviridae family. It primarily affects the epidermis and is particularly common in children.[1,2] Clinically, MC typically presents as discrete, dome-shaped, flesh-colored or pearly papules with central umbilication.[1–3] Although the condition is generally benign and self-limiting, lesions may persist for months or longer and can cause discomfort, cosmetic concerns, and psychosocial distress in affected children and their families.[3–5]

In the present case, multiple lesions were observed on the patient's back and shoulder, with several lesions showing inflammatory changes, including erosion and crust formation. Inflammation, erythema, and crusting may occur during the natural course



*Photo documentation by Enrique Vicenzo Kosasih.
Figure 1. Papules with characteristic central umbilication.



*Photo documentation by Enrique Vicenzo Kosasih.
Figure 2. Multiple molluscum contagiosum lesions on the left upper back.

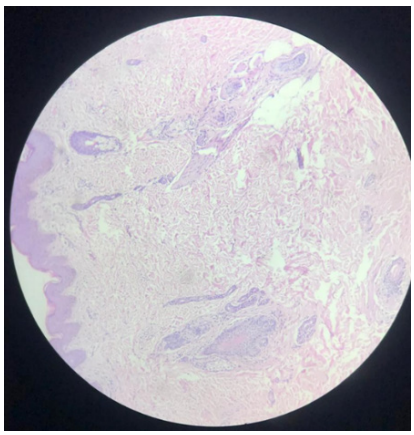


*Photo documentation by Enrique Vicenzo Kosasih.
Figure 3. Histopathological examination of the skin lesion (hematoxylin and eosin staining).




of MC and can precede spontaneous lesion resolution, a phenomenon described as the beginning-of-the-end (BOTE) sign.[6] However, these changes should be interpreted in the clinical context, because disruption of the skin barrier may also predispose lesions to secondary bacterial infection.[7,8] Therefore, inflammation or crusting alone should not be considered sufficient evidence of bacterial infection or an automatic indication for antibiotic treatment.[6–8]

MCV is transmitted primarily through direct contact with infected skin and may also spread through contaminated personal items.[1,8] Autoinoculation can occur when lesions are scratched or manipulated, resulting in the appearance of additional lesions on other areas of the body.[8,9] Accordingly, patient and caregiver education regarding hand hygiene, avoidance of scratching, and avoidance of sharing towels and other personal items is an important component of management.[7,8,10] The pathogenesis of MC involves interactions between the virus and the host immune response, which may contribute to persistence of the infection.[1,3] Nevertheless, the duration of infection varies between individuals, and spontaneous resolution remains common in immunocompetent children.[3-5]

Clinicians generally diagnose MC based on the characteristic morphology and distribution of the lesions.[1–3] Dermoscopy may provide additional diagnostic clues in selected cases, while histopathological examination can be useful when lesions are atypical, or the diagnosis is uncertain.[2,11] Histologically, MC is characterized by enlarged keratinocytes containing large intracytoplasmic inclusion bodies known as Henderson–Patterson bodies or molluscum bodies.[1,2] In the present case, histopathological examination provided additional diagnostic confirmation.

Management should be individualized according to lesion burden, anatomical location, symptoms, associated inflammation, treatment availability, and the preferences of the child and family.[10,12] Observation remains a reasonable option for uncomplicated MC because spontaneous resolution is common.[5,7,8,10] Systematic reviews have evaluated several treatment approaches, but the balance between efficacy, adverse effects, tolerability, and the quality of available evidence remains important when selecting therapy for children.[12–14] Clinical trials have also investigated treatments such as cantharidin and berdazimer, showing that treatment options continue to evolve.[15–18] Evidence from these studies should be interpreted in the context of the specific treatment evaluated and should not be extrapolated directly to surgical excision.

In the present case, multiple surgical excisions were performed because the patient had numerous lesions, including several measuring more than 5 mm in diameter. This approach should be interpreted as an individualized intervention for this patient's clinical circumstances rather than as routine or first-line treatment for pediatric MC.[10,12] Physical removal may be considered in selected cases when the clinical presentation and treatment goals justify procedural intervention.[7,12] However, physical removal can cause pain, irritation, and scarring, and these potential harms must be weighed against the expected benefits.[7,12,19] The number and size of lesions alone should not be presented as universally accepted indications for excision.

The procedural circumstances and the patient's ability to tolerate treatment determined the use of general anesthesia in this case. General anesthesia should not be considered necessary for MC excision in general. The anesthetic approach should be determined individually according to the number and location of lesions, the extent of the procedure, the child's age and cooperation, and the clinical team's assessment. Document the specific rationale for general anesthesia in the case report if this information is available in the clinical record.

Postoperative management included oral and topical antimicrobial agents, topical acyclovir, and vitamin C supplementation. These treatments were part of the care provided to this patient; however, a single case cannot attribute the favorable outcome specifically to these interventions. The cited treatment literature does not establish this combination as a standard regimen for eradicating MCV or preventing recurrence.[12–14] Antibiotics should be used when bacterial infection is clinically suspected or confirmed, or when another clear indication exists, rather than solely because an MC lesion is inflamed or crusted.[6–8] The use of topical acyclovir and vitamin C supplementation should therefore be reported transparently as part of the treatment administered, without claiming proven efficacy against MC or prevention of recurrence.

Caregiver education remains important after treatment. Families should be advised to discourage scratching or manipulation of lesions, maintain appropriate skin hygiene, and avoid sharing towels and other personal items.[7,8,10] These measures may help reduce the risk of transmission and autoinoculation, although they cannot guarantee that new lesions will not develop.[8,9]

At the one-month postoperative follow-up, the surgical wounds had healed satisfactorily, with no secondary infection or new lesions observed. This finding indicates a favorable short-term outcome following excision and postoperative care. Nevertheless, the observation period was limited, and the absence of new lesions at one month does not establish long-term cure or exclude subsequent recurrence. Longer follow-up would be needed to assess sustained lesion clearance.[5,12]

Overall, this case illustrates the need to individualize the management of children with multiple MC lesions. Although excision under general anesthesia was followed by satisfactory short-term healing in this patient, the outcome should not be generalized to all children with MC.[7,10,12] The decision to undertake an invasive procedure should consider the individual clinical presentation, expected benefits and risks, alternative management options, and shared decision-making with the family.[10,12]

CONCLUSION

This case illustrates an individualized approach to managing multiple molluscum contagiosum lesions in a pediatric patient. Surgical excision under general anesthesia was followed by satisfactory wound healing, with no new lesions observed at the one-month follow-up. However, this approach should be regarded as an




alternative intervention for selected clinical circumstances rather than a standard or routinely recommended treatment for pediatric molluscum contagiosum. The decision to perform surgical excision under general anesthesia should be carefully considered in light of the clinical presentation, lesion characteristics, procedural risks, available less invasive alternatives, and the child's ability to tolerate treatment. The favorable outcome in this case represents a short-term observation and should not be interpreted as evidence of long-term cure or generalizable treatment efficacy.

DECLARATIONS

Consent for Publication

The patient provided written informed consent for publication of the clinical information. All efforts were made to ensure patient confidentiality and protect her identity.

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Author Contributions

Enrique Vicenzo Kosasih contributed to the conception of the case report, manuscript preparation, and drafting. Yenny Rusli contributed to the literature review and manuscript preparation. Athanasia Endah Dwi Wahyuningsih contributed to the clinical management, interpretation of clinical findings, and critical revision of the manuscript. Budi Yuwono contributed to the surgical management and critical revision of the manuscript. All authors reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Conflict of Interest

The authors declare no conflicts of interest, financial or non-financial, related to this case report.

Declaration on the Use of Artificial Intelligence (AI)

Artificial intelligence was used solely for language editing. All authors reviewed, verified, and approved the final manuscript and take full responsibility for its content.

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