

Molluscum Contagiosum Diagnosis, Manifestation and Management: A review Article

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ABSTRACT

Introduction: Infectious skin disease with clinical manifestations of benign papules, which is often caused as a sexually transmitted disease in adults, caused by the molluscum contagiosum virus, a member of the poxvirus. Manifestations of the disease are asymptomatic, discrete, smooth papules. It usually develops from peduncled lesions up to 5 mm in diameter. The incubation period for Molluscum contagiosum is from one to several weeks to 6 months. Molluscum contagiosum is a viral infection that can heal spontaneously. There are 4 main subtypes of Molluscum Contagiosum 4 Virus (MCV), namely MCV I, MCV II, MCV III and MCV IV. These four subtypes cause similar clinical symptoms in the form of papular miliary lesions that are limited to the skin and mucous membranes. MCV I is known to have a greater prevalence than the other three subtypes. About 96.6% of molluscum contagiosum infections are caused by MCV I. However, in patients with decreased immune status, the prevalence of MCV II is 60%.

Discussion: The diagnosis of molluscum contagiosum in most cases can be established through history taking and clinical examination. Histopathological examination via biopsy can be helpful in some cases with atypical symptoms. Lesions caused by MCV are usually white, pink, or flesh-colored, umbilicated, raised papules (1–5 mm in diameter) or nodules (6–10 mm in diameter). Molluscum contagiosum lesions can appear as multiple or single lesions. Although the patient is usually asymptomatic, there may be eczema around the lesion and the patient may complain of itching or pain. Molluscum contagiosum lesions in HIV patients do not heal quickly, and easily spread to other locations (such as the face) and usually recur when treated with usual therapy.

Conclusion: Treatment is based on several considerations including patient needs, disease recurrence and the tendency of treatment to leave pigmented lesions or scar tissue. Most molluscum contagiosum treatment is traumatic to the lesion. Some of the treatment options are cryosurgery, curettage, incision and expression of the molluscum body; cantharidin, topical podophyllotoxin cream, salicylic acid preparations, imiquimod and topical cidofovir.

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Introduction

Infectious skin disease with clinical manifestations of benign papules, which is often caused as a sexually transmitted disease in adults, caused by the molluscum contagiosum virus, a member of the poxvirus. Manifestations of the disease are asymptomatic, discrete, smooth papules. It usually develops from peduncled lesions up to 5 mm in diameter. The incubation period for Molluscum contagiosum is from one to several weeks to 6 months. Molluscum contagiosum is a viral infection that can heal spontaneously. In the group of immunocompetent patients, molluscum contagiosum lesions are rarely found to last more than 2 months. Treatment to improve symptoms is required in some patients with compromised immune status, who have extensive

Epidemiological data from molluscum contagiosum is of low quality. The greatest incidence is in children aged 0 to 14 years, where the incidence ranges from 12 to 14 episodes per 1000 children per year. The largest number in the US is in children aged 1-4 years. The meta-analysis study stated that the prevalence in children 0-16 years ranged between 5.1% and 11.5%. In the US, the incidence is only 1% of all other skin diseases. Increases to 5-18% in HIV patients and 33% in patients who have CD4 cell counts below 100/ μ L. Another US study showed an incidence rate of 2000 respondents in 1 year showing that this disease was found to be 59% found in children and 41% in adults with genital lesions [1,2].

The etiology of this disease is a virus (genus Molluscipoxvirus) that causes Molluscum contagiosum to be a member of the Poxviridae family, which also includes members of Smallpox. Molluscum Contagiosum Virus (MCV) is a double stranded DNA virus, oval in shape with a size of 230 x 330 nm. There are 4 main subtypes of Molluscum Contagiosum 4 Virus (MCV), namely MCV I, MCV II, MCV III and MCV IV. These four subtypes cause similar clinical symptoms in the form of papular miliary lesions that are limited to the skin and mucous membranes. MCV I is known to have a greater prevalence than the other three subtypes. About 96.6% of molluscum contagiosum infections are caused by MCV I. However, in patients with decreased immune status, the prevalence of MCV II is 60% [1,3].

Discussion

The diagnosis of molluscum contagiosum in most cases can be established through history taking and clinical examination. Histopathological examination via biopsy can be helpful in some cases with atypical symptoms. Lesions caused by MCV are usually white, pink, or flesh-colored, umbilicated, raised papules (1–5 mm in diameter) or nodules (6–10 mm in diameter). Molluscum contagiosum lesions can appear as multiple or single lesions. Although the patient is usually asymptomatic, there may be eczema around the lesion and the patient may complain of itching or pain. Molluscum contagiosum lesions in HIV patients do not heal quickly, and easily spread to other locations (such as the face) and usually recur when treated with usual therapy [4].



Figure 1: Molluscum contagiosum in several locations

The diagnosis of MCV can be assisted by a biopsy using a crush preparation and Giemsa stain. Discrete foci of endophytic epidermal hyperplasia form pear-shaped lobules in the superficial dermis. Keratinocytes are swollen and contain large intracytoplasmic inclusions known as molluscum bodies. Affected keratinocytes slough off through pores that form in the stratum corneum and enlarge into a central crater. The dermis is not inflamed and the molluscum bodies are easily identified by cytology [5].

On histopathological examination will be found hypertrophic and hyperplastic epidermis. Above the basal layer, enlarged cells containing large intracytoplasmic inclusions (Henderson-Paterson bodies) can be seen. This can increase the size of the cell so that it can touch the Horny layer. Polymerase chain reaction (PCR) can be used to more quickly detect and recognize the development of Molluscum Contagiosum Virus, the results of this PCR sequence determine the subtype of the virus on the basis of nucleotide differences between Molluscum contagiosum virus type 1 and type 2. Amplification of the specific Molluscum Contagiosum virus DNA sequence from single individual lesion is becoming a sensitive and reliable method for laboratory diagnosis and molecular epidemiological studies for molluscum contagiosum. Molluscum contagiosum virus antigen can be seen using immunofluorescence technique [6].

The differential diagnosis is a melanocytic nevus, but has the same degree of pigmentation as the surrounding skin. Intradermal

nevus does not affect skin pigmentation because it is located in the dermis. Intradermal nevus can strike at any age, especially when children are in their teens, adults, but rarely over the age of 60. Characteristics can be lesions similar in color to the surrounding skin, 6 small in size (5mm – 1cm), raised from the skin surface (round, dome-shaped, pedunculated or wart). Sometimes hair grows, usually in older patients [7].

Pyogenous granulomas are part of the capillary hemangioma. These lesions occur as a result of capillary proliferation that often occurs after trauma, not caused by an inflammatory process. Often affects children and especially the distal body parts that are prone to trauma. The lesion is an erythematous papule, growing rapidly up to 1 cm in size, stemmed and bleeds easily. Lesions are usually solitary. Another differential diagnosis is verruca plana, because it has some similarities. Verruca plana is a wart that is skin-like or blackish in color, soft, in the form of flat papules 1-3 mm in diameter, especially on the face of the neck, extensor surfaces of the forearms. What distinguishes it from molluscum contagiosum is that it is darker in color and when massaged, there is no white mass [8,9].

Management

It is important to discuss the risks and benefits of treating patients with families in the benign phase because molluscum contagiosum will resolve on its own, except in immunocompetent individuals. Treatments that are often applied to patients with molluscum contagiosum are curettage and cryotherapy, with painful consequences. Surgery (Cryosurgery) is a common and efficient therapy used in the treatment of molluscum contagiosum, especially in perianal and perigenital predilection lesions. The material used is liquid nitrogen. Application using a cotton swab on each lesion for 10-15 seconds [10].

Therapy can be repeated at intervals of 2-3 weeks. Side effects include pain during therapy, erosion, ulceration and the formation of hypopigmented and hyperpigmented scar tissue. Another therapy is evisceration which is an easy method of removing the lesion by removing the central umbilical nucleus through the use of instruments such as scalpels, comedone extractors and syringes. The use of this method is mostly not tolerated by children. Podophyllin suspension 25% in benzoin or alcohol solution can be applied to the lesion using a cotton swab, left for 1 -4 hours then rinsed with clean water. Therapy can be repeated once a week. This therapy requires special attention because it contains mutagens, namely quercetin and kaempferol. Local side effects due to the use of this material include erosion of the normal skin surface and the appearance of scar tissue [11].

Podophyllotoxin is a safer alternative than podophyllin. A total of 0.05 ml of podophyllotoxin 5% was applied to the lesions 2 times a day for 3 days. Absolute contraindication of these two ingredients in pregnant women. While cantharidin is a keratolytic agent in the form of a solution containing 0.9% collodion and acetone. Has shown satisfactory results in the treatment of Molluscum Contagiosum Virus (MCV) infection. The application of this material is limited to the peak of the lesion and is left for approximately 4 hours before the lesion is washed [12]. Chemical that found as salicylic acid, benzoyl peroxide, and tretinoin. In addition, there is cantharidin, which can induce blisters on the skin, so it is necessary to test the lesions before use. If the patient is able to tolerate this substance, therapy can be repeated once a week until the lesions disappear. Side effects of therapy include erythema, pruritus and pain and burning in the lesion area. Contraindications to the use of Cantharidin are molluscum contagiosum lesions on the face [13].

Another medication is Cimetidine which is a histamine H2 receptor antagonist that stimulates delayed-type hypersensitivity reactions. The mechanism of action of Cimetidine in the treatment of molluscum contagiosum is still not clearly understood. molluscum contagiosum with extensive lesions. Cimetidine interacts with various other systemic medications, so it is necessary to take a history of treatment in patients who will receive this drug therapy [11].

Topical KOH in 10% and 20% concentrations has been found to be an effective treatment modality for female genital MC. Although the two concentrations did not show a statistically significant difference in efficacy, the difference in the total duration of treatment and the total number of applications required was found to be statistically significant, being better at 20% KOH compared to 10% KOH. However, further studies still need to be conducted to validate these findings in immunocompetent and immunosuppressed patients [13]. The immunomodulator method stimulates the patient's immune response to infection. Imiquimod is an immune-stimulating agonist of receptors that activates both innate and acquired immune responses. It is a useful alternative in the treatment of MC based on case reports and uncontrolled studies. The study compared the efficacy of cryotherapy with imiquimod 5%, showing complete clearance in 100% of patients at 16 weeks for cryotherapy versus 92% for imiquimod 5%. Skin side effects were more common in the cryotherapy group. Current evidence places imiquimod as a controversial alternative therapy [14].

Interferon alfa, candidin, and diphencyprone used for immunomodulatory. Interferon alpha is a proinflammatory cytokine used in the treatment of MCV in immunosuppressed patients with severe or refractory disease. It can be given subcutaneously or intralesionally. Another option is candidin, an intralesional immunotherapy derived from a pure extract of *Candida albicans*. It is an alternative in the treatment of MC, applied pure or diluted at 50% with lidocaine in a dose of 0.2-0.3 mL intralesionally every 3 weeks. Study found treatment of MC showed complete results. resolution rate of 55% and partial resolution of 37.9%, with an overall response rate of 93% [15]. The main problem with intravenous administration is nephrotoxicity. Newer MCV treatments include topical sinecatechin, intralesional 5-fluorouracil, hyperthermia, and immune zoster globulin. Other recommendations to avoid transmission of MCV regarding prevention of transmission including avoiding sharing bathtubs, bath towels, and sponges are shown in table 1 below [16].

Table 1: Prevention MCV Transmission

Do not touch, pick or scratch lesions
Practice good hand hygiene
Keep lesions clean and covered with clothing or bandage
Cover lesions with watertight bandages before participating in contact sports or sharing equipment (swimming pools)
Do not share towels, clothing, or other personal items
Do not shave or have electrolysis on areas with lesions
Avoid sexual activities if lesions are in the genital area until you see a health care provider
There should be no reason to keep a child with MC home from school or daycare

Conclusion

Treatment is based on several considerations including patient needs, disease recurrence and the tendency of treatment to leave pigmented lesions or scar tissue. Most molluscum contagiosum treatment is traumatic to the lesion. Some of the treatment options are cryosurgery, curettage, incision and expression of the molluscum body; cantharidin, topical podophyllotoxin cream, salicylic acid preparations, imiquimod and topical cidofovir.

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