Molluscum contagiosum

What is molluscum contagiosum?

Molluscum contagiosum is a common skin infection caused by a pox virus that affects children and adults. Transmission is usually by direct skin contact and has occurred in contact sports and by sharing baths, towels and gymnasium equipment. Outbreaks in schools are well recognised.

Pathophysiology[1]

Molluscum contagiosum is a viral skin infection caused by molluscum contagiosum virus (MCV), a DNA pox virus, specifically a member of the *Poxviridae* family. There are four distinct subclasses of MCV, with MCV1 being the most common cause of molluscum contagiosum. MCV2 is relatively common in those individuals with HIV or immunosuppression.

Molluscum contagiosum epidemiology[2]

Molluscum contagiosum is common. The exact prevalence is uncertain because many people never seek medical care.

- Over 90% of those presenting in UK general practice are under the age of 15 years.
- The incidence in children ranges from 2-10% and prevalence ranges from from 5-12%.
- Infection from routine physical contact. Infection can also occur by contact with the virus on inanimate objects (fomites).
- Sexual transmission usually affects young adults and is a small proportion of reported infections.
- People with HIV infection are particularly prone to molluscum contagiosum. The prevalence in people with HIV has been reported to be between 5% and 33%.

A systematic literature review in 2014 concluded that:[3]

- Evidence on epidemiology of molluscum contagiosum is generally of poor quality.
- The greatest incidence is in children under the age of 14 years, and highest in the 1- to 4-year-old age group.
- Incidence rate ranges from 12-14 episodes per 1,000 per year in children.
- Point prevalence in children aged 0-16 years is 5.1-11.5%.

Risk factors[3]

- It occurs most often in children.
- People who are immunocompromised, in particular from HIV, steroid treatment or lymphoproliferative disorders, are more at risk of molluscum contagiosum. However, the vast majority of infected people have a competent immune system.
- Molluscum contagiosum seems to occur more often in children with atopic eczema.
- There is an association with swimming.
- It is usually spread by direct contact but may be transmitted via contaminated objects such as towels, clothes or toys. In adults it is often spread by sexual contact.
- It is almost exclusively a disease of humans and so there is neither a risk of children infecting pets nor of pets infecting children.

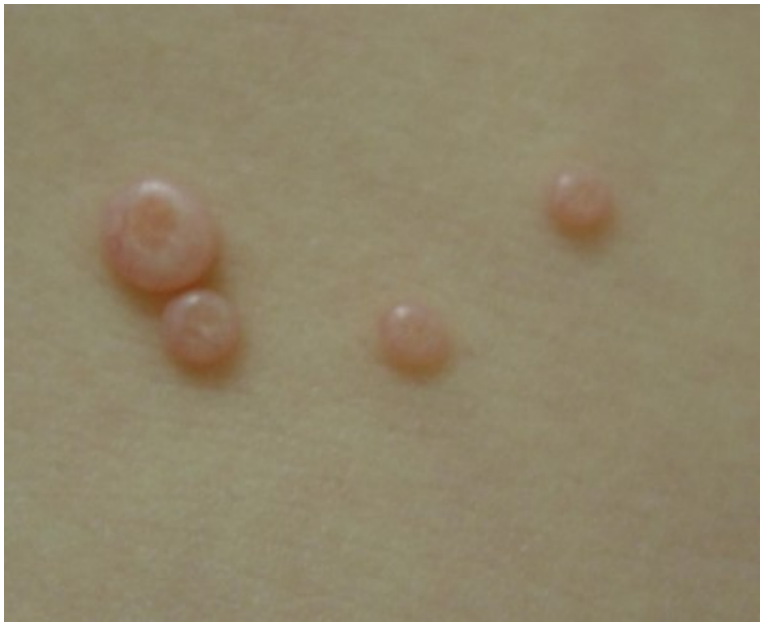
History

The incubation period is usually between 2-8 weeks. It is assumed to be infectious as long as there are visible lesions present. Usually it is asymptomatic but there may be tenderness, pruritus and eczema around the lesions. They tend to spread more rapidly in atopic individuals or in skin conditions where the skin barrier is less effective. It is almost invariably confined to the skin but cases affecting the eyelids and conjunctiva have been reported. There is no pyrexia or malaise.

Mean duration of each lesion is around eight months; however, due to autoinoculation, new lesions occur.[2]

Examination[4]

- Firm, smooth, umbilicated papules, usually 2-5 mm in diameter. Lesions bigger than 15 mm have been described in people with AIDS.
- They may be the colour of skin, white, translucent or slightly yellow.
- In children they are usually on the trunk or extremities. In adults they are often on the lower abdomen, inner thighs or genital region, suggesting sexual transmission. The discovery of this distribution in children is not usually an indication of sexual abuse, as molluscum contagiosum in the genital area is common.[5]
- Although rare, it has been reported on the buccal mucosa.
- They may be single or more typically in clusters of up to 30 lesions but sometimes there are many more. There may be 100 or more in immunocompromised individuals. In some conditions (for example, sarcoidosis, lymphocytic leukaemia, congenital immunodeficiency, selective immunoglobulin M deficiency, thymoma, prednisolone and methotrexate therapy, AIDS, malignancy, atopic dermatitis), multiple widespread, persistent and disfiguring lesions can occur (especially troublesome on the face but also involving the neck and trunk).



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For more images, see the website of DermNet NZ.[6]

Differential diagnosis

- Lichen planus.
- Dermatitis herpetiformis.
- Basal cell carcinoma.
- Keratoacanthoma.
- Fibrous papule of the face.
- Cutaneous cryptococcosis - also umbilicated papules, not uncommon on the face, found in conditions with immunosuppression (especially HIV).
- Milia.
- Spitz' naevus.
- Syringomata.
- Dermatofibroma.
- Herpes virus infections.
- Warts.

Investigations[1]

- These are not usually required and diagnosis is made on clinical grounds based on the appearance of lesions. Dermatoscopy may be helpful if the diagnosis is unclear.
- Molecular methods such as PCR are available but are not generally used in clinical practice.[4]
- If there are widespread lesions, consider investigation for immunosuppression.
- Referral to a GUM clinic may be indicated if it is thought that it may have been transmitted through sexual contact, for screening for other sexually transmitted infections.

Molluscum contagiosum treatment and management[2]

Parents often request treatment for their children and express concern about the infection spreading. However, all techniques are a little painful and there is little convincing evidence for the benefit of treatment, so usually the best management is to await spontaneous resolution. If lesions are very troublesome, consider advising squeezing or piercing after a bath, or cryotherapy. If there is evidence of secondary bacterial infection, a topical antibiotic cream may be required. An emollient or mild steroid cream (such as hydrocortisone 1%) may be helpful if there is surrounding eczema or inflammation.

General self-care advice

- Reassurance. Set realistic expectations. Most cases will clear up spontaneously within 18 months.
- Avoid scratching. This increases the chance of spread within the individual and to others, and increases the risk of infection and of scarring.
- Advise there is no need for exclusion from school, swimming or gym activities.
- Advise not to share towels. There is possibly some value in covering lesions for communal activities such as PE.
- In adults with anogenital lesions, advise the use of condoms.

Treatment options

- Treatment is not usually required in immunocompetent people, and spontaneous resolution usually occurs within 18 months.
- Physical or topical treatment, such as cryotherapy, podophyllotoxin 0.5%, and imiquimod 5% cream may be recommended for people with anogenital molluscum. However, there is a lack of evidence to support their use.

A Cochrane review found that no single treatment was convincingly effective for molluscum contagiosum. Their report suggests that although many treatment strategies are used, there is not a solid evidence base yet for any of them. It found:[7]

- That no single intervention has been shown to be convincingly effective in the treatment of molluscum contagiosum.
- Moderate-quality evidence that topical 5% imiquimod was no more effective than vehicle in terms of clinical cure, but led to more application site reactions, and high-quality evidence that there was no difference between the treatments in terms of short-term improvement. High-quality evidence showed a similar number of general side effects in both groups.
- As the evidence did not favour any one treatment, the natural resolution of molluscum contagiosum remains a strong method for dealing with the condition.

Referral

- This is rarely indicated.
- Refer to an ophthalmologist if the eyes are involved.
- Refer to a sexual health clinic to screen for other sexually transmitted disease if anogenital lesions are present in adults. Podophyllotoxin 0.5% may be used for treatment.[4]
- Refer immunosuppressed individuals with extensive lesions.

Complications[2]

- Discomfort and irritation.
- Inflammation.
- Secondary infections.
- Hypersensitivity reactions.
- Eyelid lesions may be associated with follicular or papillary conjunctivitis.
- Emotional and psychological distress caused by the cosmetic appearance.

Prognosis[2]

- In otherwise healthy people, spontaneous resolution usually occurs within 18 months and complications are uncommon. In some cases the lesions may persist for more than three or four years. Lesions tend to last longer in people with co-existing atopic dermatitis.
- In people who are immunocompromised, lesions can persist for five years or more. In people with HIV infection, clearance may be delayed or incomplete but may improve with treatment.

Further reading

- Chen X, Anstey AV, Bugert JJ; Molluscum contagiosum virus infection. Lancet Infect Dis. 2013 Oct;13(10):877-88. doi: 10.1016/S1473-3099(13)70109-9. Epub 2013 Aug 21.
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