

# Eye Loss Due to Disseminated Molluscum Contagiosum Skin Infection Involving the Eyelids in an Immune Competent Child



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**Submission:** February 02, 2017; **Published:** May 04, 2017

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## Abstract

**Background:** Molluscum contagiosum is a viral infection of skin and mucous membranes caused by a DNA poxvirus. It is a common skin infection in children with numerous ocular manifestations.

**Case report:** Eye loss due to disseminated molluscum contagiosum infection of the skin involving the eyelids in a 4 years old immune competent female child. The clinical history, examination, treatment and follow-up are presented.

**Conclusion:** molluscum contagiosum is not always a self limiting benign skin infection and can cause serious eye complications especially in the third world. Active treatment is indicated to prevent secondary complications and limit the spread of the disease to other people.

**Keywords:** Viral infection; Molluscum contagiosum; Eye loss

## Introduction

Molluscum contagiosum is a viral infection of skin and mucous membranes caused by a double-stranded DNA poxvirus. The virus causes a characteristic skin lesion consisting of a single or multiple round pearly white umbilicated papules [1]. Molluscum contagiosum is largely if not exclusively a human disease although there are few reported cases in some animals [2]. Distribution is worldwide, but it is more common in areas with hot climate [3]. The virus is transmitted directly through skin to skin contact with other infected patients or indirectly through contact with contaminated fomites such as bath sponges and towel. The virus can also be transmitted to other areas in the same patient by autoinoculation [4]. Although all age groups can be affected, it commonly occurs in two age peaks: children and adults. Children are usually infected by casual contact and young adults infected by sexual contact [5]. Clinically molluscum contagiosum lesions are usually asymptomatic; however, some lesions may become pruritic or tender due to associated eczema or inflammation. There are no systemic symptoms [6]. In most cases lesions resolve spontaneously without treatment over the course of several months [7]. On examination, the skin lesions are round, dome shaped, pearly, flesh colored, firm papules

with central umbilication. They are usually 2-5mm in diameter (except for giant molluscum which may reach few centimeters). Beneath the umbilicated center is a white, curd-like core that contains molluscum bodies. Lesions may be single or multiple distributed on the skin of the head- including the eye lids, neck, trunk, the limbs, and around the genital area [8]. Rarely, it may involve the palms, the soles, mucous membranes of the mouth, or conjunctiva [9,10]. Immuno compromised patients - children and adults, such as HIV patients and patients on immunosuppressive therapy, tend to have atypical and more wide spread and persistent lesions [5,11].

The diagnosis of molluscum contagiosum is clinically evident by the characteristic appearance of the skin lesion. In atypical or giant lesions, a biopsy can be done to reach diagnosis. Histopathology reveals characteristic intracytoplasmic inclusion bodies (molluscum or Henderson-Paterson bodies) [12]. Other tests include complement fixation test (CFT) and polymerase chain reaction (PCR) [13]. Treatment in healthy individuals is not always necessary because most cases are self limiting. Indications include: relieving symptoms and discomfort, improving cosmetic appearance, persistent lesions,

and reduction of autoinoculation and spread to other contacts [14]. Many modalities exist [15]. Treatments can be divided into three categories: destructive- physical and chemical), immune modulators, and antiviral [16].

### Case Report

A four years old female child presented to the dermatologist with disseminated skin lesions involving the whole body surface area. The lesions were scattered all over the face, neck, trunk and limbs with larger concentrations around the eyelids- both eyes- and the genital region. The lesions were round pearly white umblicated papules typical of molluscum contagiosum. The patient consulted many dermatologists before she was referred to an ophthalmologist for eye examination. On examination, the lesions were more confluent and concentrated around the eyelids skin and eyelid margins making it difficult to open the balpebral fissure for inspection of the conjunctiva and corneal surface, and the condition was associated with secondary pyogenic infection and discharge around the eyelid margin. Examination under general anesthesia to facilitate eyelids opening and subsequent surgical removal revealed infective keratitis on the right side with profuse pus discharge and extensive corneal stromal ulceration and melting.



Figure 1



Figure 2

The treating dermatologist and ophthalmologist started surgical excision of as many lesions as possible. The eye postoperatively was treated with intensive topical antibiotics

eye drops and eye ointment for several days until the infection was resolved and healing of the corneal surface took place. The patient was referred to a pediatrician for the investigation of the possible cause of immune deficiency. The patient did not return subsequently for follow-up (Figure 1-3).



Figure 3

### Discussion

Molluscum contagiosum is usually described as a benign and self limiting skin infection that does not always require treatment [17]. However, this may not be the case when the eye is involved [18]. Ocular manifestations may present as a range of complications [1,6,19]. Lesion located on or near the lid margin may give rise to secondary chronic follicular conjunctivitis. Unless the lid margin is examined carefully, the causative molluscum lesion may be overlooked therefore it can be easily misdiagnosed and mistreated. Prolonged follicular conjunctivitis or secondary bacterial infection can result in keratitis usually in the form of fine punctate epithelial erosions or sub epithelial opacities. Corneal vascularisation, scarring and opacification may result in visual acuity loss. Molluscum contagiosum infection commonly involves the face and hands. Itching and scratching facilitate extension of infection to other parts of the same patient; therefore, the disease usually presents as multiple crops and less commonly as a solitary lesion which sometimes becomes a confluent multilobulated giant tumor affecting the eyelid [20,21]. Secondary infection and ulceration can result in permanent scarring.

Molluscum contagiosum is a common pediatric dermatosis in Iraq [22]. Al-Azawi reported a high prevalence of molluscum contagiosum virus (MCV) type I in children age group  $\leq 10$  years [23]. In our clinical practice, molluscum contagiosum infection is wide spread and eye involvement is very common in Iraq. Predisposing factors may include low socioeconomic status, crowding, and low personal hygiene. It affects all age groups especially children in preschool age and primary school age. This highly contagious infection is usually acquired from contact with other infected people. They could be family members or visitors or more commonly other infected children in the neighborhood or schools.

Molluscum contagiosum infections involving the eyelids and periocular area are usually managed by ophthalmologists, and sometimes referred by dermatologists. Although many modalities of therapy are effective in destruction of the virus, the use of substances such as liquid nitrogen or chemicals in the vicinity of the eye may be hazardous [24,25]. Surgical removal by shave excision or curettage is a simple and effective procedure [23]. However, multiplicity of the lesions and young patient age usually necessitate light general anesthesia given by an anesthesiologist in an operation theater and therefore cannot be done as an outpatient office procedure in the minor surgical room. This may result in considerable suffering to the patient and parents and burden on the health care providers [3].

### Conclusion

Molluscum contagiosum is not always a self-limiting benign skin infection, but it can cause serious eye complications especially in the third world. Active treatment is indicated to prevent secondary complications and limit the spread of the disease to other people.

### Disclosure

The author reports no conflicts of interest in this work.

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DOI: [10.19080/JOJO.2017.03.555605](https://doi.org/10.19080/JOJO.2017.03.555605)

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