

Case Report

HAART – The best treatment modality for widespread and disfigured giant molluscum contagiosum

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Abstract Molluscum contagiosum (MC) is a common viral infection caused by molluscum contagiosum virus (MCV), a double-stranded DNA virus which belongs to *Poxviridae* family. It is frequently seen in young children and sexually active adults. The transmission of spread occurs both by sexual and nonsexual routes like direct contact with infected skin, mucous membrane or via fomites. The incubation period varies from two to six months. In immunocompetent persons, the molluscum lesions typically appear as painless, flesh-colored or skin-colored, dome shaped papules of size 2-3mm with central umbilication that can appear anywhere on the body, but most often located on the face, neck and intertriginous sites like axilla and popliteal fossa. However, atypical forms (giant, verrucous, agminate forms) with involvement of genitalia are more common in immune – compromised persons particularly in sexually active adults. It is usually self-limited in immunocompetent individuals while in HIV-infected patients with advance disease, the lesions are more widespread and extensive. Due to its longer period of persistence and poor response to conventional therapies, the clinicians often face difficulties to treat it. Several reports document that variety of treatment options had been tried for widespread molluscum contagiosum but none had been considered to be the ideal and standard treatment. Herein, we report a case of 6-year-old HIV-infected boy with multiple, tumour like nodules (agminate variety); a rare presentation of molluscum contagiosum over face and other body parts which successfully resolved with exclusive HAART therapy.

Key words

Molluscum contagiosum, highly active antiretroviral (HAART) therapy.

Introduction

Molluscum contagiosum (MC) is a common viral infection that is caused by molluscum contagiosum virus (MCV), a double-stranded DNA virus which belongs to *Poxviridae* family. It is frequently seen in young children and sexually active adults.^{1,2} Incidence of MC lesion in AIDS patients is 10-30% and it is often a clinical marker for advanced HIV disease.^{3,4}

Extensive and atypical (giant, verrucous, agminate forms) have been seen in immune-compromised individuals.^{5,6}

We report a case of 6-year-old HIV-infected boy with multiple, tumour like nodules (agminate variety); a rare presentation of MC over face and other body parts which successfully resolved with exclusive HAART therapy.

Case Report

A 6-year-old boy child presented to our skin OPD with multiple skin-colored, non-tender, raised lesions over face, neck, abdomen and the extremities since 10 months. Initially, the lesions

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Figure 1 Numerous, skin-colored, smooth-surfaced, dome-shaped papules and nodules seen all over the face, trunk and extremities.



Figure 2 Smaller lesions with umbilication covered the trunk and the extremities.

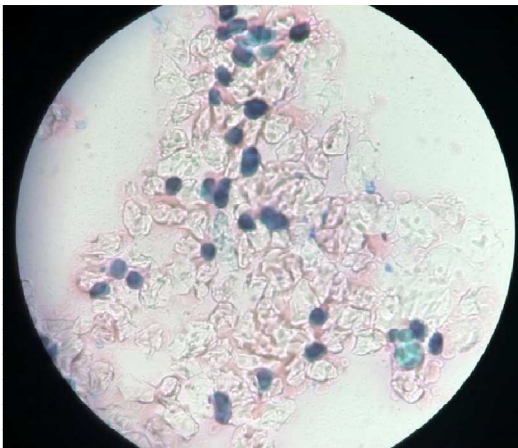


Figure 3
Tzanck smear shows intracytoplasmic molluscum bodies (Henderson-Patterson bodies).

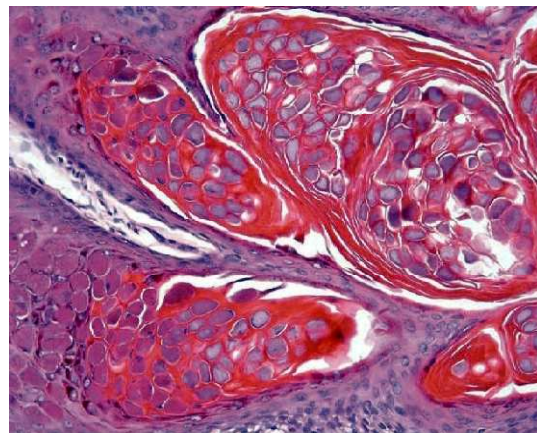


Figure 4
Biopsy shows large, eosinophilic intracytoplasmic molluscum bodies (H&E, 100x).



Figure 5 a



Figure 5 (a) and (b) At 9 months, the lesions over face, trunk and extremities had completely resolved leaving some residual scars.

appeared around the perioral region then involved the eyes, neck and later became generalized all over the body within the period of 3 months. The genitalia were spared. He had no complaints other than difficulty in vision. No similar lesion was detected in his family. There was a significant history of his parents to be HIV-positive with no history of any blood transfusions in the past.

Physical examination revealed multiple, skin-colored, smooth surfaced dome shaped papules and nodules all over the face, trunk and extremities (**Figure 1**). Umbilication was seen in some lesions. Most of lesions were of 3-6 mm in diameter but few were more than 2cm (face lesions). Numerous papules conglomerated

together to form a large plaque - agminate form, which was quite obvious around the left eye interrupting the vision. Smaller lesions with umbilication covered the trunk and the extremities (**Figure 2**). There were no lesions over the genitalia. Systemic examination, including ophthalmologic tests was normal. The routine blood tests were also normal. He was detected as HIV positive (HIV-I & HIV-II) and his CD4+ count was 73 cells/mm³. VDRL and HBsAg were non-reactive. Tzanck smear using Giemsa stain from a crushed nodule showed intracytoplasmic molluscum bodies [Henderson-Patterson (HP) bodies] (**Figure 3**). A skin biopsy from the forearm showed multiple, large, eosinophilic, HP bodies (**Figure 4**). Final diagnosis of widespread molluscum contagiosum was made and exclusively, only HAART was started to the patient with the regime consisting of Stavudine 6mg, Lamivudine 30mg and Nevirapine 50mg (in fixed dose tablet form) 2 tabs twice daily. The patient was followed up at 3 months. Following HAART therapy most of the lesions especially in perioral areas had started to resolve. At end of 6 months, his CD4+ count had risen to 325 cells/mm³. At 9 months the lesions over face, trunk and extremities had completely resolved leaving some residual scars (**Figure 5a** and **5b**). The patient was directed to continue lifelong HAART therapy and to make regular visits to the antiretroviral therapy (ART) centre.

Discussion

Molluscum contagiosum was first described in 1827 by Bateman. It was named for its nodules' domed, dell shape, resembling that of a mollusk (Mollusc is the British spelling) and their propensity to spread hence "contagiosum".

In our present study, vertical transmission (mother-to-child transmission) [MTCT] of HIV infection could be the reason for the patient

(child) to become HIV-positive. MTCT is the primary cause of HIV infection in children under 10 years of age and the transmission efficiency of MTCT of HIV infection ranges from 13%-60%.⁵ Secondary spread of MC lesions may occur by autoinoculation (excoriation of primary lesions) and spread to areas of normal skin.

The pattern of MC lesions differs in immunocompetent and immune-compromised individuals. In healthy children, the molluscum lesions are typically skin-colored, dome shaped with characteristic umbilication which resolves spontaneously. Patients with advanced HIV disease, often have persistent molluscum lesions that gradually increase in size, some develop into giant, tumour-like, nodular lesions that can exceed 1cm in diameter and become very deforming.^{6,7} Up to 5% of HIV-infected patients with molluscum shows the involvement of eyelid.⁸ Bizarre and atypical (verrucous, agminate forms) have been also reported in immune-compromised individuals. Disfigurement and widespread MC has been considered a strong clinical marker in AIDS patient.⁹ The disseminated MC lesions should be differentiated from cryptococcosis, penicilliosis, histoplasmosis, verruca vulgaris, pneumocystosis and atypical mycobacterial infections.

Diagnosis of MC is made by clinical picture and confirmed by Tzanck smear and histopathological examination. The biopsy shows large, eosinophilic intracytoplasmic inclusion bodies—molluscum bodies (Henderson–Patterson bodies, HP bodies) in the epidermis. Studies suggest that because of the atypical nature of Mollusca in HIV-positive patients, diagnosis is largely dependent on biopsy.⁴

Although the treatment options are abundant but none has been considered the ideal and standard

treatment for widespread giant molluscum contagiosum. Various local conventional therapies such as (cryotherapy, curettage, extraction, chemicals - cidofovir 2%, tretinoin, cantharidin, trichloroacetic acid, 10% KOH (potassium hydroxide) has been tried for MC but they have resulted in unfavourable outcome. The Cochrane Database study quotes "No single intervention has been convincingly effective in treating MC".¹⁰

Studies suggest that low CD4 cell counts have been linked to widespread facial mollusca and therefore have become a marker for severe HIV disease.^{11,12} Therapies targeted at boosting the immune system have proven the most effective therapy for molluscum contagiosum in immune-compromised persons.^{13,14} One such therapy, is the HAART. Thus, HAART therapy with different regimes protocols could be considered best to improve the immune status in AIDS patient, thereby helping in resolution of the MC lesions.

Conclusion

HAART therapy serves as the best treatment modality for widespread and disfigured (agminate forms) of molluscum contagiosum in AIDS patient as it improves the immune status by increasing the CD4 cell counts and helps in immune reconstitution.

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