

## Case Report

# Molluscum contagiosum simulating a sebaceous cyst: a rare presentation

Amrita Chakrabarti<sup>1\*</sup>, Enam Murshed Khan<sup>1</sup>, Asra Quadri<sup>1</sup>,  
Biswanath Mukhopadhyay<sup>2</sup>

<sup>1</sup>Department of Pathology, Apollo Gleneagles Hospital, Kolkata, India

<sup>2</sup>Department of Pediatric Surgery, Apollo Gleneagles Hospital, Kolkata, India

**Received:** 10 April 2016

**Accepted:** 16 April 2016

### \*Correspondence:

Dr. Amrita Chakrabarti,

E-mail: [amrita.chakravarti@gmail.com](mailto:amrita.chakravarti@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Molluscum contagiosum (MC) is a viral infection of the skin and mucous membrane that usually presents as umbilicated, flesh colored dome shaped papules and are mostly self-limiting in immune competent individuals, though extensive lesions and atypical presentations may be observed in the immune-compromised. Here we present an extremely rare incidence of MC presenting as a sebaceous cyst (SC) in the post auricular region, in a fourteen year old immune-competent male child. Though few incidences of MC within an epidermal cyst (EC) have been reported, this infection primarily presenting as a cystic lesion simulating a SC in an immune competent individual is extremely rare. Imaging findings were consistent with subcutaneous cyst in keeping with a SC, which was then treated by surgical excision. Histopathology of the surgically removed lesion revealed a cyst lined by stratified squamous epithelium containing numerous molluscum bodies. No further treatment was required since this was the only intact lesion present.

**Key words:** Molluscum contagiosum, Sebaceous cyst, Immunocompetent

## INTRODUCTION

MC is a common infection of the children and adolescents that affects the skin and mucous membranes and is caused by a DNA virus belonging to the family Poxviridae and subgenus *molluscipox* virus which comprises of four genetically subdivided but clinically indistinguishable virus types.<sup>1,2</sup> They are usually self-limiting in the immune competent individuals and cause discreet single or multiple flesh colored papules.<sup>3</sup>

This virus is clinically distinct from other pox viruses owing to its characteristic umbilicated, mostly self-limiting papules, rather than pox like vesicular lesions.<sup>4</sup> It is a contagious infection with predilection towards the face and trunk, flexural areas and genitalia.<sup>5,6</sup> It usually affects children and adolescents. Face, trunk and

extremities are common sites of infection in children while the genital areas are more commonly affected in adults. Transmission takes place through direct skin contact with an infected individual.

However, transmission via fomites on bath sponges, towels, salons and swimming pools can also take place. This disease has a worldwide incidence of 2 to 8%, with increasing incidence in the immune-suppressed and communities with overcrowding, poor hygiene and poverty.<sup>1,4,7</sup>

The average incubation period is of two to seven weeks with an extended range of six months. In the general population MC usually has a mild or subclinical presentation, however, when co-existing with HIV positive individuals or in the immune compromised, atypical presentations, predominant facial involvement,

bacterial super infection and resistance to treatment has been observed.<sup>1</sup>

The lesions are usually clinically diagnostic, owing to their characteristic appearance. Histopathological analysis of the biopsied or curetted lesion may confirm the infection by demonstration of molluscum bodies. Though this virus cannot be cultured, other diagnostic modalities include electron microscopy, immunohistochemistry using polyclonal antibody and in-situ hybridization for in-situ DNA.<sup>4,8,9</sup>

MC presenting as a cutaneous cystic lesion simulating a SC is an extremely rare entity and literature review showed only one such case being reported, to the best of our knowledge. Al-Hilo et al carried out a study on different clinical presentations of MC in Iraqi patients, which demonstrated 28 out of 330 patients (8.48%) with an atypical presentation.<sup>4</sup>

Out of these 28, only one presented as a sebaceous cyst. The other atypical presentations included features of that of herpes simplex, plane warts, keratoacanthoma, stye, skin tag, abscess, condyloma of Bushckie and Lowenshtein, horn, basal cell carcinoma, pyogenic granuloma, keloid, fibroma, exophytic wart and Leishmania. However, multiple incidences of MC occurring within an EC have been reported.

Here, we present an extremely rare case of a fourteen year old immune competent male presenting with a dermal cystic swelling at the post auricular region that was clinically assumed to be a SC with radiological features suggestive of a subcutaneous cyst.

Surgical excision of the lesion was done. Histopathological analysis revealed a cyst lined by stratified squamous epithelium containing numerous molluscum bodies. Surgical removal of the lesion was enough and no further treatment was done as this was the only intact lesion present. Post-operative recovery was uneventful and the child followed up at the surgical outpatient few times.

### CASE REPORT

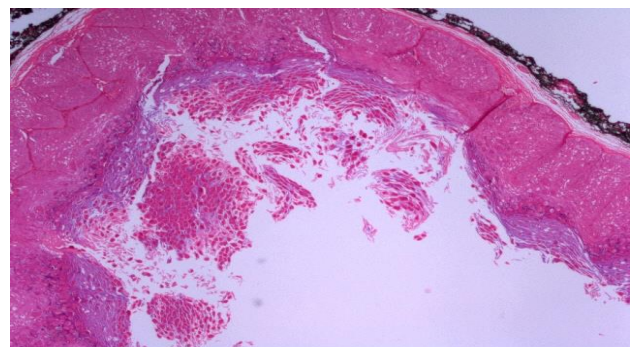
A fourteen year old male presented to the pediatric surgical outpatient department with a painless swelling over the left post auricular region for one month. There were no other complaints.

On examination, there was a central punctum over the lesion and the clinical picture pointed toward a sebaceous cyst (Figure 1). Ultrasound of the lesion showed a 2.9x2.8x0.7 cm well encapsulated cystic space occupying lesion in the subcutaneous plane in left retro auricular area of swelling with thick internal echoes, suggestive of a sebaceous cyst. Further work up confirmed the immune-competent status of the child. Subsequently,

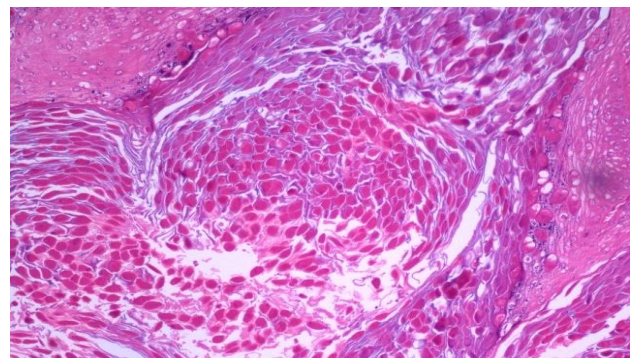
surgical excision of the lesion was done which was observed to contain sebaceous cyst like material.



**Figure 1: A cystic lesion simulating a sebaceous cyst.**



**Figure 2: A cyst lined by stratified squamous epithelium containing numerous molluscum bodies.**



**Figure 3: The molluscum bodies are eosinophilic intracytoplasmic inclusion bodies.**

Gross examination of the surgical specimen showed a skin covered fibro fatty tissue piece with skin ellipse measuring 3x0.7cm and underlying fibro fatty tissue measuring 3.3x2x1.5cm. One longitudinal and two transverse sections were taken for histopathological analysis. Microscopic assessment of Haematoxylin and Eosin (H&E) stained slides revealed skin tissue with hyperkeratosis and acanthosis of the epidermis. The dermis showed a cyst lined by stratified squamous epithelium containing numerous molluscum bodies (Figure 2). The molluscum bodies are eosinophilic

intracytoplasmic inclusion bodies (Figure 3). Surrounding stroma showed mild chronic inflammation. There was no malignancy. Surgical excision of the lesion was the only therapy required since this was a single intact lesion with no evidence of any other swellings or papules. No further treatment was given and the child followed up at the pediatric surgical outpatient after an uneventful recovery following surgery.

## DISCUSSION

MC is a common, usually self-limiting skin and mucous membrane infection caused by MC virus (MCV), which exists in four types: MCV 1, 2, 3 and 4. MCV infection is specific to humans and worldwide incidences have been reported. MCV genotype1 has been observed to be the predominant infection causing agent and represents 98% cases in the United States and 75-90% cases in general, while other genotypes are found to be more common in the immune compromised, HIV infected individuals and in countries outside the United States.<sup>1,4,10,11</sup> However, these genotypes are clinically indistinguishable. Usually they present as characteristic umbilicated flesh colored papules 3-5mm in size. Atypical presentations are common in the immunosuppressed and HIV infected population. Such lesions may be larger and present at unusual sites with unusual clinical picture. However, such atypical presentations in immune-competent persons are rare, though reported in literature. Giant MC with atypical sites such as the eyelid and nipple.<sup>5,12,13</sup>

Though MCV affects any group, children are found to be more commonly affected by this virus.<sup>14</sup> Al-Hilo et al, in their study in Iraqi patients, found children below ten years predominantly affected by this infection.<sup>4</sup> Head and neck were the most common sites of infection (78.18%), while genital lesions were seen in 10% of the study population including adults and children. Among children, genital lesions were noted in only 2.7% cases. Another study conducted by Dohil MA et al found that majority of studied patient population with MC were children younger than 8 years of age and presented with fewer than fifteen lesion.<sup>1</sup>

Similar to other viral infections, cell mediated immune system has been implicated to be vital for the resolution of the infection. In the adults, rise in the incidence of MC has been associated with increased incidence of AIDS cases, with 5 to 18% of HIV infected persons showing clinical evidence of MC.<sup>1</sup> Atopic dermatitis has been found to be another condition which is commonly associated with MC with presence of more extensive lesions, due to relative suppression of helper T cell type 1 response in acute skin lesions.<sup>15</sup>

MCV infects epidermal keratinocytes leading to the formation of epithelial downgrowing lobules containing molluscum bodies. Infection of keratinocytes of hair follicle infundibulum, may give rise to comedones or abscesses.<sup>16</sup> Few cases of MC infecting EC have been

reported. Such conditions may arise due to co-inoculation of MCV at the time of the cyst formation or invasion of a pre-existing EC by MCV via the ostium connecting the epidermis with the underlying EC.<sup>17</sup>

As per the study conducted by Al-Hilo et al, typical presentation of umbilicated papules was found in 92.12% of their study population, while 7.78% patients were clinically atypical, including one case that presented as a sebaceous cyst. MC may simulate many common skin diseases or have a fulminant presentation.<sup>18</sup> However, the exact pathogenesis behind such atypical presentations in immune competent patients has not been fully understood.

Diagnosis is mostly made by clinical evaluation, however, biopsy or cytology are required for a definitive diagnosis.<sup>19</sup> The lesions are confirmed by demonstration of enlarged epithelial cells within intra cytoplasmic molluscum bodies. Use of electron microscopy, in-situ DNA hybridization and fluorescent antibody testing are other useful diagnostic modalities.<sup>13</sup> Immunological work-up should be done especially for atypical MC presentations. Treatment options include cryotherapy with liquid nitrogen, extirpation followed by cauterization of the base with electro-dessication, or with chemicals such as silver nitrate, phenol and trichloroacetic acid. Solitary intact lesions in immune competent patients can be treated by simple surgical excision, however, resistant cases in the immune compromised may be treated with topical antiviral agent like cidofovir or intralesional interferon alpha.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Dohil MA, Lin P, Lee J, Lucky AW, Paller AS, Eichenfield LF. The epidemiology of molluscum contagiosum in children. *J Am Acad Dermatol.* 2006;54(1):47-53
2. Senkevich TG, Burgert JJ, Sissler J, Koonin EV, Darai G, Moss B. Genome sequence of a human tumorigenic poxvirus: prediction of specific host response evasion genes. *Science.* 1996;273:813-6.
3. Gottlieb SL, Myskowski PL. Molluscum contagiosum. *Int J Dermatol.* 1994;33:453-61.
4. Al-Hilo MM, Abbas MY, Alwan AI. A typical clinical presentation of molluscum contagiosum in Iraqi patients; clinical descriptive study. *Al - Kindy Col Med J.* 2012;8:18-27.
5. Kumar N, Okiro P, Wasike R. Cytological diagnosis of molluscum contagiosum with an unusual clinical presentation at an unusual site. *J Dermatol Case Rep.* 2010;4:63-5.
6. Ghosh P, Saha K. Molluscum contagiosum involving an epidermoid cyst: a rare association and potential

- source of clinical misdiagnosis. *J Nepal Med Assoc.* 2014;52:723-5.
7. Billstein SA, Mattaliano VJ. The nuisance sexually transmitted disease: Molluscum contagiosum, scabies, crab lice. *Med Clin North Am.* 1990;74:1487-505.
  8. Thompson CH. Identification and typing of molluscum contagiosum virus in clinical specimens by polymerase chain reaction. *J Med Virol.* 1997;53:205-11.
  9. Hanson D, Dayna GD. Molluscum contagiosum. *Dermatology Online J.* 2007;9:2.
  10. Burgert JJ, Darai G. Recent advances in molluscum contagiosum virus research. *Arch Virol.* 1997;13:35-47.
  11. Smith K, Yeager J, Skelton H. Molluscum contagiosum: its clinical, histopathologic, and immunohistochemical spectrum. *Int J Dermatol.* 1999;38:664-72.
  12. Vardhan P, Goel S, Goyal G, Kumar N. Solitary giant molluscum contagiosum presenting as lid tumor in an immunocompetent child. *Indian J Ophthalmol.* 2010;58:236-8.
  13. Pandhi D, Singhal A. Giant molluscum contagiosum. *Indian Pedia.* 2005;42:488-9.
  14. Wynn T, Sheila F. Pox virus infection in: *Fitzpatrick's dermatology general medicine*, Eds: Wolff Klaus, Goldsmith Lowell, Katz Stephen, Gilchrist Barbara, Paller Amys & Leffell David. 7<sup>th</sup> ed. 2012;4:1911-3.
  15. Solomon L, Telner P. Eruptive molluscum contagiosum in atopic dermatitis. *Can Med Assoc J.* 1966;95:978-9.
  16. Kanitakis J. Molluscum contagiosum in an epidermoid cyst. *Am J Dermatopathol.* 2011;33:638-40.
  17. Chiu HH, Wu CS, Chen GS, Hu SC, Hung CH, Lan CC. Molluscum contagiosum infestation in an epidermal cyst: still infectious? *J Eur Acad Dermatol Venereol.* 2010;24:81-3.
  18. Brown J. Childhood molluscum contagiosum. *Int J Dermatol.* 2006;45:93-9.
  19. Eleftheriou BS, Kerr SC, Stratman EJ. Diagnosis of atypical molluscum contagiosum: the utility of a squash preparation. *Clin Med Res.* 2011;9:50-1.

**Cite this article as:** Chakrabarti A, Khan EM, Quadri A, Mukhopadhyay B. Molluscum contagiosum simulating a sebaceous cyst: a rare presentation. *Int J Res Dermatol* 2016;2:18-21.