

Molluscum Contagiosum: Rapid Cytological Diagnosis using Tzanck Smear in a Case with Unusual Presentation

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ABSTRACT

Molluscum contagiosum is a benign dermatological condition with a multiple smooth wart like lesion which is caused by double stranded DNA poxvirus named as *Molluscum contagiosum* virus. Very few case report has been documented cytologically as this lesion is usually diagnosed clinically. Furthermore, use of Tzanck smear for rapid cytological diagnosis has rarely been described. In dermatology, Tzanck smear is mostly performed for rapid diagnosis of Herpes virus infection. Its use however, can be more widely applied, including in the

diagnosis of molluscum contagiosum especially in case with unusual presentation. In this case the lesion was presented on right forearm as multiple papule, without central umbilication in young immunocompetent male. These are unusual from normal presentation in this age group.

Here, we report a case of molluscum contagiosum in a young immunocompetent adult male with its clinical and cytological findings using Tzanck smear. Our purpose was early cytological diagnosis of a clinically unsuspected case of molluscum contagiosum using Tzanck smear cytology.

Keywords: Molluscum bodies, Papules, Tzanck smear

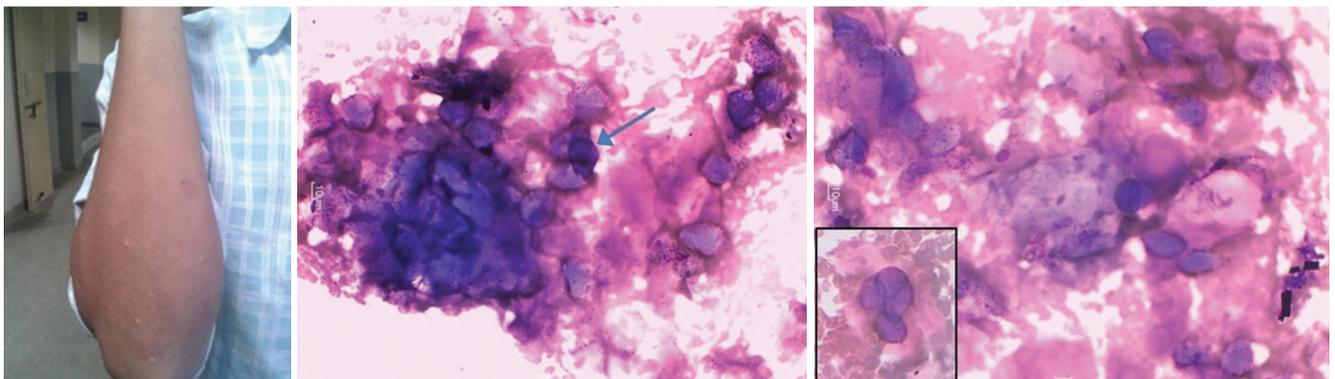
CASE REPORT

A 25-year-old young adult male reported to the Dermatology OPD with complaint of multiple papules in the right forearm for the past one month. These papules were small in size and was not associated with any pain but itching was present. Patient was a postgraduate student and reported no relevant past medical or family history.

Examination revealed multiple small papules total of 5 in

number measuring 2-3 mm in diameter, seen only on the extensor aspect of right forearm skin. The surface of the lesions appeared smooth, rounded, flesh colored without a dimple in the middle, and on palpation, they were soft in consistency and non-tender [Table/Fig-1].

Routine blood investigations revealed no abnormality in any of the parameters. HIV 1 and HIV 2 testing were also done which was found to be negative. On the basis of clinical



[Table/Fig-1]: Photograph showing multiple papules on the extensor aspect of right forearm in a young immunocompetent adult male. **[Table/Fig-2]:** Photomicrograph showing many anucleated squamous cells intimately admixed with few scattered Molluscum bodies (arrow) in a haemorrhagic background (Giemsa stain, 40X). **[Table/Fig-3]:** Photomicrograph showing numerous basophilic rounded structures admixed with few degenerated benign squamous cells (Giemsa Stain,40X). Inset : Molluscum body having basophilic inclusion pushing nucleus to the periphery.

examination possibility of contagious lesion with differential diagnosis of molluscum contagiosum, milia, Herpes simplex infection and fungal infection was made. After taking consent and aseptic precautions a single lesion located on the forearm was deroofed and material from the base scraped. The scraped material was smeared on the slide, air-dried and the Tzanck smear was then sent for cytological examination.

Microscopic examination of the smear stained by Giemsa stain revealed large number of basophilic rounded structures intimately mixed with degenerated benign squamous cells and inflammatory cells in the background [Table/Fig-2,3]. Occasional cells showed granular intracytoplasmic eosinophilic inclusion bodies, pushing the nucleus to the periphery. Thus, a cytological diagnosis of molluscum contagiosum was made on Tzanck smear. Patient was treated by curettage following which patient showed considerable symptomatic improvement. Follow-up of the patient at sixth month shows complete regression of the lesion.

DISCUSSION

Molluscum contagiosum is a self limiting skin lesion caused by *Molluscum contagiosum* virus and was first described as a clinical entity in 1871 [1]. It is double stranded DNA virus, which is a member of the pox viridae family. It is spread by direct contact with infected individuals or fomites [2]. It affects primarily three group of populations: children, sexually active adults, and immunocompromised individuals. Children frequently develop molluscum contagiosum lesions on the trunk, arms, and face [2]. Adults may develop lesions near the genitals as a sexually transmitted infection. The presentation of molluscum contagiosum in immunocompromised individual may be unusual either in morphology such as giant lesion or unusual distribution [3].

The lesions of molluscum contagiosum usually present as benign elevated pearl shaped papules more or less reddish to pink in colour. The lesion usually grow upto 2-8 mm, some may grow upto 3 cm (giant lesion). The typical lesion has characteristic central umbilication [2]. Lesions are discrete, may be present as solitary or in groups or widely disseminated. Immunocompetent children and adults usually have fewer than 20 lesions [2]. Lesions are usually asymptomatic. However, some patients complain of tenderness or pruritus [2].

The typical presentation of molluscum contagiosum can be recognized without difficulty, especially when lesions are multiple, grouped, umbilicated, and located in typical sites, but can be very difficult to diagnose in adults as seen in our case. Our patient was an immunocompetent male. The lesion was located on right forearm, without central umbilication. Also the chances of confusion between this viral infection and closed comedones or Epidermoid microcysts (milia) is high. Cytology using Tzanck test can help in avoiding confusion between these simulating lesion. It reveals the presence of pathognomic intracytoplasmic molluscum bodies

(Henderson–Patterson's bodies), the largest known viral inclusion bodies (30–35 µm). These are virus-transformed keratinocytes, appearing as deeply basophilic, ovoid, and anucleated masses with a homogeneous appearance surrounded by a membrane. On the other hand, milia is a keratin filled cyst usually 1-2 mm in size, commonly seen around the eyes, nose and cheeks in adults and infants.

Although, biopsy is the preferred diagnostic method for the cutaneous lesion due to their easy accessibility, but the Tzanck test serves as rapid adjunct to it. Very few authors have reported about the cytological diagnosis of molluscum contagiosum [4,5]. Ruocco E et al., reported the use of Tzanck smear in diagnosis of molluscum and other cutaneous disorders [6].

The main advantage of Tzanck smear test is that it helps in early diagnosis of the disease since it is easy to perform, simple, inexpensive procedure without the need for a specialized laboratory. Obtaining a sample is practically painless and usually does not require local anesthesia. Since, the turnover time of Tzanck smear is less than biopsy it enables in improving the disease outcome of the patient as the clinicians are able to start the treatment early in case of positive results. It causes negligible trauma and discomfort to the patient, and is well-tolerated. Also multiple samples can be taken from different lesion and areas where taking biopsy is difficult. Although, Tzanck smear is easy to perform but improper slides preparation or inadequate scraping of the lesion may give unsatisfactory results in some cases.

CONCLUSION

Molluscum contagiosum with an unusual clinical presentation in an immunocompetent adult male is noteworthy. In such cases, rapid cytological diagnosis of molluscum contagiosum is suggested by demonstrating the characteristic molluscum bodies in the scraped material using Tzanck smear. Through this article, we wish to emphasize upon the importance of using Tzanck smear for diagnosing molluscum contagiosum which can prove helpful in clinically unsuspected cases.

REFERENCES

- [1] Meirowsky E, Keys S, Behr G. The cytology of Molluscum contagiosum, with special regard to the significance of the so-called vacuoles. *J Invest Dermatol.* 1946;7:165-69.
- [2] Brown J, Janniger CK, Schwartz RA, Silverberg NB. Childhood Molluscum contagiosum. *Int J Dermatol.* 2006;45(2):93-99.
- [3] Inui S, Asada H, Yoshikawa K. Successful treatment of Molluscum contagiosum in the immunosuppressed adult with topical injection of streptococcal preparation OK-432. *J Dermatol.* 1996;23:628-30.
- [4] Krishnamurthy J, Nagappa DK. The cytology of Molluscum contagiosum mimicking skin adnexal tumor. *J Cytol.* 2010;27(2):74–75.
- [5] Yadav N, Rehman S, Ansari HA, Mehdi G, Raza MH. Molluscum contagiosum: Unusual presentation and diagnosis on cytology. *Clin Cancer Investig J.* 2015;4:378-80.
- [6] Ruocco E, Brunetti G, Vecchio D M, Ruocco V. The practical use of cytology for diagnosis in dermatology. *JEADV.* 2011;25:125–29.

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