



Letter to Editor

Modified auto-inoculation method- A novel therapeutic approach in the treatment of molluscum contagiosum

Akshay Samagani^{1,*}¹Dept. of Dermatology, Bangalore Medical College and Research Institute, Bengaluru, Karnataka, India

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Dear Editor,

Molluscum contagiosum (MC) is a common viral cutaneous infection. Despite multiple therapeutic options there is no definitive treatment. In some cases, the lesions are severe, recurrent and cosmetically odd.^{1,2} Modified auto-inoculation (MAI) is a novel technique that induces cell-mediated immunity resulting in clearance of local and distant lesions.³ This study aimed to assess the effectiveness of MAI in the treatment of molluscum contagiosum.

A prospective interventional study was done at the department of dermatology in a tertiary care hospital for 18 months, among 47 patients. The institutional ethics committee clearance was obtained. MC patients above 5 years of age with ≥ 5 lesions and with a treatment-free wash-out period of at least 2 months were included in the study. Immunocompromised patients or patients on immunomodulatory or immunosuppressive drugs, pregnant women/lactating mothers were excluded.

A well-developed lesion was chosen as a donor. Under topical anesthesia, and using all aseptic precautions, an insulin syringe was introduced into the lesion, 8–10 times along all the axis and planes of the lesion to direct the contents of the molluscum body into the dermis resulting in multiple bleeding points from the site of entry. The white cheesy material of the lesion was made to dissipate

into the dermis by a gentle rotatory compression with the help of a cotton swab. (Figure 1) After the procedure, mupirocin cream 2% was applied locally over the punctured site for 5 days to prevent any secondary bacterial infection. Patients were advised to avoid taking any anti-inflammatory medications for 72 hours to increase the likelihood of a successful controlled inflammatory response. Subjects were followed up to assess the reduction in number of lesions on 1st, 2nd, 4th, 8th, 12th weeks and the last assessment was on 16th week. If there was an inadequate response (less than 10% reduction in number) after 2nd follow-up, the procedure was repeated.



Fig. 1: a: An insulin syringe used to puncture MC lesion deep into the dermis, along all the axes and planes of a fully developed lesion; b: Multiple bleeding points from the site of entry; c: A mild compression by rotatory movements with a cotton swab.

The mean age of patients was 22.6 ± 10.3 years and the majority belonging to the age group of 11–15 years (57.44%). The average number of the lesions at baseline was 32.1 ± 15.8 and the same was $27.1 \pm$

* Corresponding author.

E-mail address: dr.samagani@gmail.com (A. Samagani).

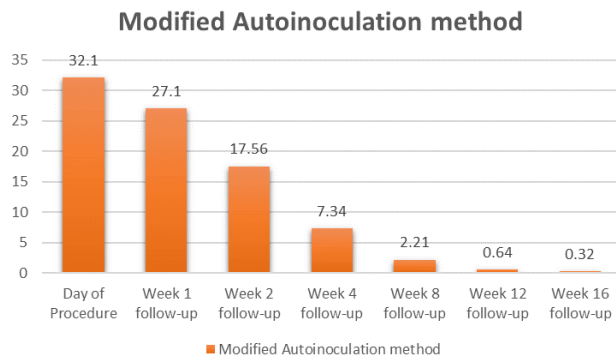


Fig. 2: Graph depicting reduction in average number of lesions.

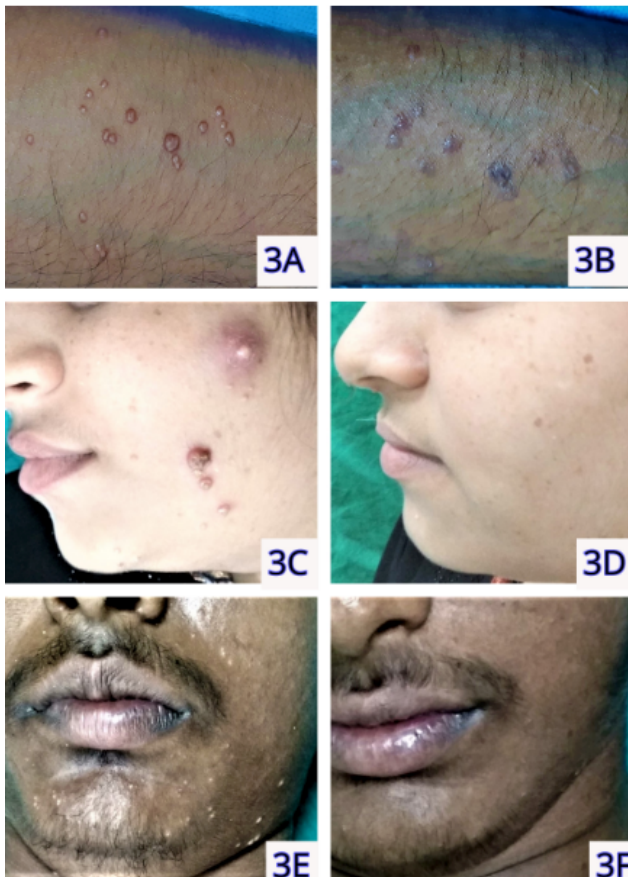


Fig. 3: Responses to modified autoinoculation on day 0 (A, C, and E) and complete resolution at the end of 16th week (B, D, and F) follow-up.

14.54 at first follow up to 0.32 ± 1.2 at the end of 16 weeks. (Figure 2) The maximum response to the procedure was seen in 4th-8th week of follow-up ($p=0.09$, 0.02, highly significant) and the patients <10 years of age showed complete resolution within 8 weeks. The comparison between the number of lesions at baseline (Week 0) and the number of lesions at 16 weeks were

found to be statistically significant (p -value <.001, highly significant). At the end of 16 weeks, 43 (91.48%) patients showed complete clearance. The adverse effects were seen in 8 (17.02%) with a majority presenting with post-inflammatory hyperpigmentation (5,10.64%). (Figure 3)

Previous work by Gupta K et al using the conventional method of autoinoculation achieved complete clearance of 68.2% at the end of 12 weeks.⁴ Whereas, Kachhawa D et al chose a well-developed lesion as a donor and did autoinoculation by few punctures along the plane of skin to obtain complete clearance by 55.17% at 12th week follow-up.⁵ In our study, we modified the procedure by multiple punctures extending to the dermis and a mild rotatory pressure was applied to enhance a successful exposure of viral antigens to the immunological surveillance system. We achieved complete clearance of 82.97% at the end of 12th week. Spontaneous clearance of MC lesions could not be excluded and the small sample size is a limitation of our study.

Modified autoinoculation therapy is a novel, simple, day-care and cost-effective procedure, emerging as a promising therapeutic option in treating severe, recurrent, extensive and recalcitrant molluscum contagiosum infections.

Conflict of Interest

None.

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Author biography

Akshay Samagani, Fellow <https://orcid.org/0000-0002-6410-3194>

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