Oman Medical Journal [2022], Vol. 37, No. 6: e451

Can We Justify Intralesional Immunotherapy with Measles-mumps-rubella Vaccine for Recalcitrant Facial Warts?

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ARTICLE INFO

Article history:
Received: 2 April 2022
Accepted: 10 May 2022

Online:
DOI 10.5001/omj.2022.97

Dear Editor,

In March 2022 issue of the *Oman Medical Journal*, Al-Qassabi and Al Kindi reported that recalcitrant facial warts in two Omani patients were completely resolved with a single intralesional injection of the measles-mumps- rubella (MMR) vaccine.[1] I presume that the following points might hinder justifying the intralesional MMR vaccine in the treatment of recalcitrant warts.

First, treating warts is still debatable, yet there is no general agreement on the best modality of treatment. The available data suggests that immunotherapy with intralesional tuberculin and intradermal Bacillus Calmette-Guérin vaccine is a safe, inexpensive, and effective modality in the treatment of all types of warts even if multiple or recalcitrant, but immunotherapy with intralesional MMR vaccine carries less effectiveness and safety.[2]

Second, though the two cases were followed-up for a few months with no recurrence, immunotherapy generally necessitates long follow-ups. Therefore, it might not be appropriate for patients who seek a quick resolution.

Third, immunotherapy for warts encompasses the ability of the body's immune system to recognize certain bacterial, viral, and fungal antigens in a previously sensitized subject inducing type IV hypersensitivity reaction—up-regulated type 1 T helper (Th1) cytokines interleukin (IL)-1, tumor necrosis factor-alpha (TNF-α), interferon-gamma (IFN-γ), and down-regulated Th2 cytokines IL-10—not only to the injected antigen but also against the wart virus. Evaluation of the pattern of production of Th1 (IL-1, TNF-α, IFN-γ) and Th2 cytokines (IL-10) in blood samples of patients receiving immunotherapy has shown IL-1, TNF-α up-regulation, and IL-10 down-regulation which confirms the notion that cytokine milieu plays a crucial role in wart immunotherapy.[3] Regrettably, the relevant Th1 and Th2 cytokine profiles and antibody titers were not assessed following the intralesional MMR vaccine in the two cases in question.

Fourth, I do agree with the authors that large-scale randomized clinical trials are paramount in assessing the efficacy of intralesional MMR in treating patients with multiple recalcitrant warts.

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