

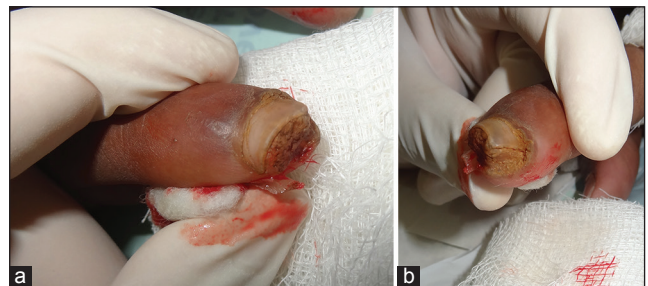
## Excellent Response to Intralesional Bacillus Calmette-Guérin Vaccine in a Recalcitrant Periungual Wart

Dear Editor,

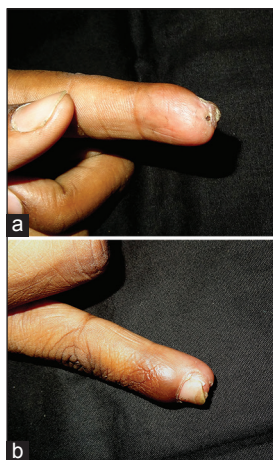
The treatment of periungual warts has always been challenging, and very often, they respond poorly to conventional treatment modalities.<sup>[1]</sup> Intralesional immunotherapy is a relatively new armamentarium in their treatment and appears to be promising as it clears not only the lesions in which antigens were injected, but also the distant lesions. Many antigens have been tried in intralesional immunotherapy with high clearance rates.<sup>[2]</sup> We here report a case of periungual wart treated successfully with intralesional bacillus Calmette-Guérin (BCG) vaccine.

A 26-year-old man presented with a painful hyperkeratotic lesion involving the left index finger for 11 years. The onset of lesion was preceded by traumatic injury with a sharp instrument during farming. The lesion has been growing since then and he has been paring it himself to keep the size of lesion in check. The pain was aggravated on slightest trauma, interfering with his daily activities. In the past, he had received various treatments including topical salicylic acid, topical 5-fluorouracil cream, electrocautery (twice), cryosurgery, simple excision (by a surgeon) and homeopathy, without much success. On examination, the tip of left index finger was covered with a hyperkeratotic mass in a circumferential manner and the subungual area too appeared to be involved [Figures 1a and b]. The lesion was tender and rest of the muco-cutaneous examination was non-contributory. An incision biopsy was done; and

wart (verruca) and tuberculosis verrucosa cutis were considered in clinical differentials. The histopathology findings were consistent with wart and dermis did not show any granuloma. Considering failure of conventional therapy in the past, we decided to treat the patient with intralesional BCG vaccine, after obtaining a positive Mantoux test response. BCG vaccine in a dose of 0.1 ml was injected into the dermis, underneath the hyperkeratotic mass, and the procedure was repeated at 2 weeks interval, to a total of three treatment sessions. The patient experienced intense pain following treatment and was put on oral analgesics for a period of 3 days following each treatment session. The patient also noticed mild flu-like symptoms that resolved in 1 to 2 days. Following last intralesional injection, superficial ulcer developed and was prescribed Condy's soaks and topical antibiotic cream. The ulcer healed within a week to leave scar-less skin [Figures 2a and b].



**Figure 1: (a) Firm hyperkeratotic mass involving tip of the left index finger. (b) Another view of the lesion**



**Figure 2: (a and b) After three sessions of intralesional BCG injections**

The management of warts on hands and feet is challenging and some of them are resistant to even 6 months of conventional treatment modalities including cryosurgery being defined as refractory warts.<sup>[1]</sup> In last few years, many new modalities have been tried and one of them, immunotherapy, appears very promising. In an open-label study assessing imiquimod 5% cream for periungual and subungual warts, 80% of participants had complete clearance at 16 weeks.<sup>[3]</sup> Choi *et al.* have reported success rates as 85% (by subjects) and 91% (by individual lesions) with topical immunotherapy with diphenylcyclopropenone.<sup>[4]</sup> Similar clearance rate (84%) has been noted with another contact sensitizer, squaric acid dibutylether (SADBE).<sup>[5]</sup>

In addition to topical immunotherapy, intralesional injection of cytokines and antigens too has been tried. Interferon-alpha was among the first agents used as intralesional injection (as local immunotherapy); however, a meta-analysis of three trials showed no significant advantage of intralesional interferon-alpha compared with placebo.<sup>[6]</sup> *Candida* and mumps (and mumps measles rubella (MMR) vaccine) antigens have been injected in warts to achieve resolution of not only of warts where antigens were injected, but also of distant warts. This is a unique advantage of intralesional immunotherapy over conventional treatment modalities as with later, only the lesions treated are cleared.<sup>[2,7]</sup> BCG vaccine is another addition to growing list of antigens suitable for intralesional immunotherapy.<sup>[2,8]</sup> BCG vaccine, being easily and widely available, appears to be a promising armamentarium in the treatment of refractory warts.

The most common adverse effects noted during immunotherapy are erythema, oedema, pruritus and

pain at the injection site and mild flu-like symptoms systematically.<sup>[8]</sup> Additionally, depigmentation of the area treated with a candida antigen has been reported.<sup>[9]</sup> Perman *et al.* have documented a case painful cyanosis of candida antigen-injected finger and attributed this adverse effect to oedema and vascular compromise secondary to a vigorous delayed-type hypersensitivity reaction.<sup>[10]</sup> Therefore, it is advised to keep a close watch on patients treated with immunotherapy to document and manage known and new, if any, adverse effects.

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