



## Topical BCG vaccine for treatment of plane wart

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**Introduction:** plane wart is a dermatological disease, caused by HPV. Spontaneous recovery takes a long time to occur and patients often seek for treatment. Many therapeutic modalities have been used with variable success. Immunotherapy with BCG vaccine is a modality that has recently used for treatment of wart. **Case report:** We reported a 17 years old girl with multiple plane warts on the right cheek and below the right eyebrow which had undergone several treatments such as cryotherapy, but all treatments failed with recurrent of all warts. We started a new therapeutic modality with topical BCG vaccine for this patient. Treatment protocol was weekly topical application of 1ml BCG for two hours under plastic occlusive dressing. Patient monitored every tow week with imaging. After six weeks treatment all the warts disappeared simultaneously. After a four months period of follow up, patient showed no recurrence. **Conclusion:** Immunotherapy with topical BCG vaccine is an effective treatment modality for plane warts with no recurrence and minimal side effect.

### INTRODUCTION

Plane wart is a common dermatological disease, caused by human papilloma virus. Although the rate of spontaneous recovery is high, it usually takes a long time to occur and patients seek for treatment due to unpleasant appearance [1,10]. Plane warts are smooth, flat or slightly elevated papules which are usually skin colored but may be pigmented. They vary in diameter from 1 to 5 mm or more and usually affect the face and the dorsum of the hands [2]. Many therapeutic modalities have been used with variable success, for example, cryotherapy [3], topical retinoic acid [4], topical KOH [1], imiquimod [5], and 5-fluorouracil [6], oral zinc [7]. Immunotherapy with BCG vaccine is another modality that has recently used for treatment of wart.

### CASE REPORT

A 17 years old immunocompetent female, was presented with multiple skin colored flat papules on the right cheek and below the right eyebrow. Clinical diagnosis was plane wart and the patient had undergone several treatments such as topical tretinoin, cryotherapy, oral zinc and cauterization since one year ago, but all treatments failed with recurrence of all warts. Diagnosis was based in clinical presentation and in physical examination she had no warts in any site of body. We started a new therapeutic modality with topical BCG vaccine for this patient. Treatment protocol was weekly topical application of 1ml BCG for two hours under plastic occlusive dressing. Patient monitored every tow week with imaging. After six weeks treatment all the warts disappeared simultaneously. After a four months period of follow up, patient showed no recurrence.

### DISCUSSION

In 2013, Ahmed Salem et al, was evaluated the treatment of plane warts

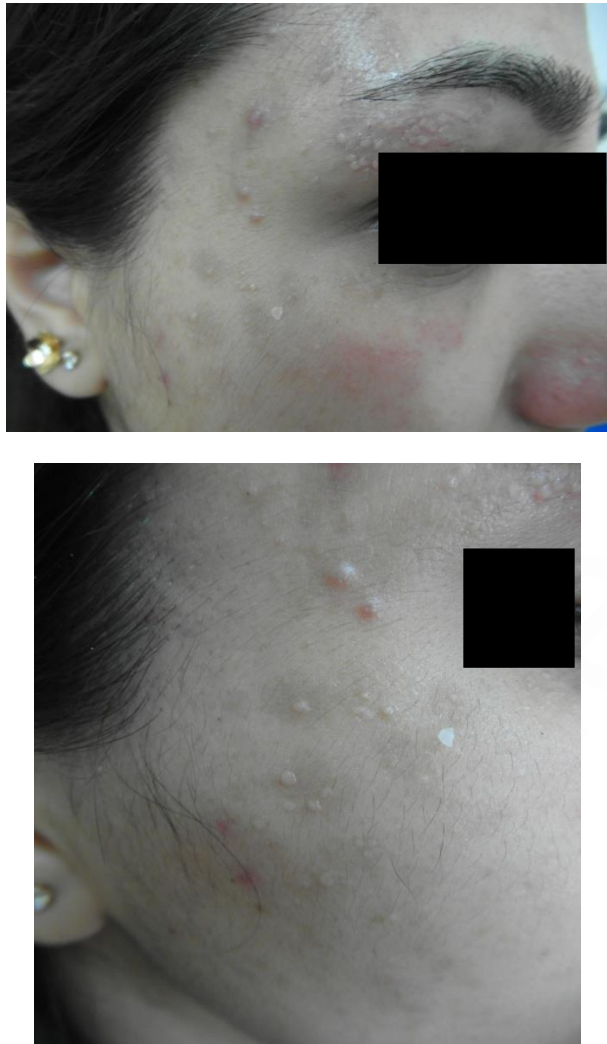
with topical BCG vaccine in Months to detect any recurrences. The study included 80 children with common and plane warts at different sites on the body. Patients were divided into two groups. Group A (40 patients) treated with topical viable BCG and group B (40 patients) received topical saline as control. Both groups had received a previous vaccination of BCG. BCG was applied once weekly for six consecutive weeks. The strategy for patients who had partial or no response was another course of treatment for another 6weeks. Complete response was seen in 65% of children with common warts and 45% of patients with plane warts. No response was detected in the control group ( $p < 0.001$ ). There was no recurrence or side effects in the BCG group [8].

In 2004 Bagat Metavea et al, evaluated the efficacy of topical BCG in treatment of condyloma Acuminata. A placebo control study of 50 patients which divided into two groups. Group 1 consisted of 25 patients who received topical BCG weekly for 6 consecutive weeks. For resistant cases, it was given another intensive three-times-a-week course for 3 consecutive weeks. Group 2 consisted of 25 patients who received 0.9% saline solution as a placebo solution with the same procedure and follow-up as for group 1. Follow-up for all patients was 6 consecutive months. A complete response with the disappearance of all condyloma Acuminata was detected in 20 (80%) of the 25 patients after a maximum of six BCG applications. Three patients (12%) needed another, more extensive, course, resulting in complete clearance 3 weeks later. Only 2 patients (8%) did not achieve a full response even after application of the intensified BCG course. There was no response in the placebo group and no improvement during follow-up period. There was no recurrence in responders. Side effects were minimal, including transient erythema and fever [9].

Our patient was treated with topical BCG vaccine. Treatment protocol was weekly topical application of 1ml BCG for two hours under plastic occlusive dressing. Patient monitored every two week with imaging .After six weeks treatment all the warts disappeared simultaneously and after a four months period of follow up, patient showed no recurrence.

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**Figure 1** Skin colored flat papules of plane wart (pretreatment image)



**Figure 2** Four week after treatment



**Figure 3** Six weeks after treatment

## REFERENCES

1. Al-Hamdi KI, AL-Rahmani MA. Evaluation of topical potassium hydroxide solution for treatment of plane warts. *Indian journal of dermatology*. 2012 Jan;57(1):38.
2. Al-Hamamy HR, Salman HA, Abdulsattar NA. Treatment of plane warts with a low-dose oral isotretinoin. *ISRN dermatology*. 2012 Dec 12;2012.
3. Torrelo A. What's new in the treatment of viral warts in children. *Pediatric dermatology*. 2002 May;19(3):191-9.
4. Kubeyinje EP. Evaluation of the efficacy and safety of 0.05% tretinoin cream in the treatment of plane warts in Arab children. *Journal of dermatological treatment*. 1996 Jan 1;7(1):21-2.
5. Schwab RA, Elston DM. Topical imiquimod for recalcitrant facial flat warts. *Cutis*. 2000 Mar;65(3):160-2.
6. Lee S, Kim JG, Chun SI. Treatment of Verruca plana with 5% 5-Fluorouracil Ointment. *Dermatology*. 1980;160(6):383-9.
7. Yaghoobi R, Sadighha A, Baktash D. Evaluation of oral zinc sulfate effect on recalcitrant multiple viral warts: a randomized placebo-controlled clinical trial. *Journal of the American Academy of Dermatology*. 2009 Apr 1;60(4):706-8.
8. Salem A, Nofal A, Hosny D. Treatment of common and plane warts in children with topical viable bacillus Calmette-Guerin. *Pediatric dermatology*. 2013 Jan;30(1):60-3.
9. Metawea B, El-Nashar AR, Kamel I, Kassem W, Shamloul R. Application of viable bacille Calmette-Guerin topically as a potential therapeutic modality in condylomataacuminata: a placebo-controlled study. *Urology*. 2005 Feb 1;65(2):247-50.
10. Sadiq Musa Ahmed, Sami Khalef Jabar. Prevalence of human papillomavirus in oral and laryngeal squamous cell carcinoma: A comparative study by polymerase chain reaction. *Medical Science*, 2019, 23(95), 42-47

## Article Keywords

Plane wart, BCG vaccine, therapeutic modality, dermatological disease

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## Conflicts of interest

There are no conflicts of interest.

## Patient consent details

Informed consent was obtained from the participant in our study.

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