

# A Case of Verruca Plana Juvenile Responding to Blue Light Phototherapy

Hüseyin Baytimür, Aslı Bilgiç

Department of Dermatology and Venereology, Akdeniz University, Antalya, Turkey

## Abstract

Verruca plana, especially on the face, is a disease that can cause cosmetic and social concerns. Therapeutic approaches include immunomodulators and keratolytic agents. Blue light phototherapy shows promising results as an alternative treatment. Blue light phototherapy was applied to the patient with verruca plana on her face. We applied solely blue light phototherapy with a wavelength of 420 nm and a distance of approximately 15 cm. This kind of treatment could represent an effective, safe, and well-tolerated approach for the treatment of verruca plana.

**Keywords:** Blue, light, phototherapy

## INTRODUCTION

Verruca plana, especially on the face, is a disease that can cause cosmetic and social concerns, leading patients to seek therapy. Commonly used treatment options include cryotherapy, topical retinoids, imiquimod, salicylic acid, topical immunotherapies, photodynamic therapy, etc. However, these therapeutic options may have various side effects, such as hyperpigmentation, edema, scarring, itching, and pain.<sup>[1,2]</sup> Therefore, there is a need for new effective treatment options with better cosmetic results.

## CASE REPORT

A 23-year-old woman presented to our clinic with a 1-year history of multiple verruca, increasing in number over time. Dermatologic examination revealed skin-colored papules with flat tops on the backs of the hands, arms, shoulders, neck, and face [Figure 1]. She was unresponsive to other treatments. Thus, we applied solely blue light phototherapy with a wavelength of 420 nm and a distance of approximately 15 cm to the area [Figure 2]. A total of 10 sessions were applied twice weekly, each session lasting 20 min. No side effects were observed. After 10 sessions, all lesions were completely regressed [Figure 3]. Written

informed consent was obtained from the patient before the application.

## DISCUSSION AND CONCLUSION

Various treatments are used for verruca plana in clinical practice. However, no treatment has been proven to be 100% effective.<sup>[3,4]</sup> Therefore, new treatment modalities are being sought that will provide effective and cosmetically better results.

The mechanisms of action of blue light include a decrease in keratinocyte and fibroblast proliferation, as well as the ability to cause regression of human papilloma virus by regulating T-cell functions and cytokine release through chromophores that can be found in its own structure.<sup>[5]</sup>

In our case, the regression of the existing lesions in a short period of time (5 weeks), obtaining a good cosmetic result, having an easy application method without the need for any photosensitizer, being inexpensive, and having a low risk of side effects support the consideration of blue light as a possible treatment option for verruca plana.

**Address for correspondence:** Dr. Hüseyin Baytimür,  
Department of Dermatology and Venereology,  
Akdeniz University, Antalya 07000, Turkey.  
E-mail: h.baytimur21@gmail.com

Submission: 12-06-2023      Revision: 13-07-2023  
Acceptance: 26-07-2023      Web Publication: 25-09-2023

### Access this article online

#### Quick Response Code:



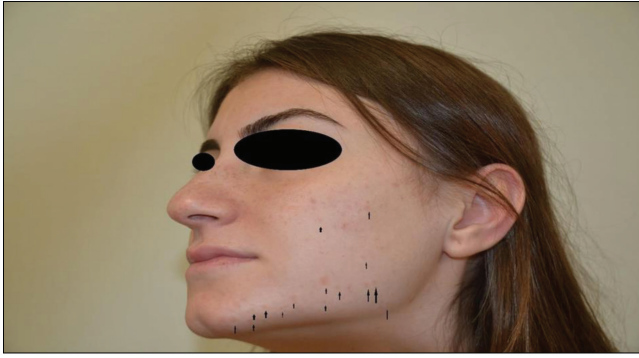
Website:  
www.tjdonline.org

DOI:  
10.4103/tjd.tjd\_60\_23

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** reprints@medknow.com

**How to cite this article:** Baytimür H, Bilgiç A. A case of verruca plana juvenile responding to blue light phototherapy. Turk J Dermatol 2023;17:111-2.



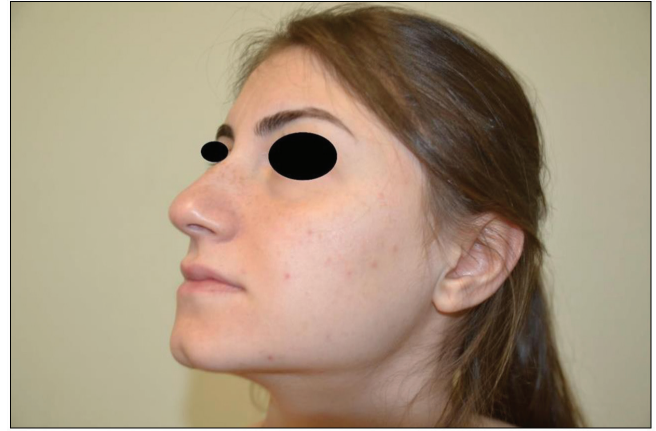
**Figure 1:** Grouped skin-colored flat papules on the left jawline (black arrow)



**Figure 2:** Blue light phototherapy

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.



**Figure 3:** Several papulopustular acne vulgaris lesions in the malar region, with regression of previously existing papules on the left jawline

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### REFERENCES

1. Zhang F, Shi L, Liu P, Zhang L, Wu Q, Wang B, *et al.* A novel cosmetic and clinically practicable laser immunotherapy for facial verruca plana: Intense pulsed light combined with BCG-PSN. *Photodiagn Photodyn Ther* 2018;22:86-90.
2. Shi HJ, Song H, Zhao QY, Tao CX, Liu M, Zhu QQ. Efficacy and safety of combined high-dose interferon and red light therapy for the treatment of human papillomavirus and associated vaginitis and cervicitis: A prospective and randomized clinical study. *Medicine (Baltim)* 2018;97:e12398.
3. Pavithra S, Mallya H, Pai GS. Extensive presentation of verruca plana in a healthy individual. *Indian J Dermatol* 2011;56:324-5.
4. Mammari N, Hamblin MR, Rauger PM. Phototherapy-based treatment for sexually transmitted infections-shining light into unexplored territory. *Venereology* 2022;1:170-86.
5. Sadowska M, Narbutt J, Lesiak A. Blue light in dermatology. *Life* 2021;11:670.