



Effect of ayurvedic multimodal therapies on Plantar warts - a case report

Bopparathi Swapna ✉

Department of Shalya Tantra, National Institute of Ayurveda, Deemed to be University (de novo), Amer Road, Jaipur, Rajasthan, India.

K.V. Narasimha Raju

Department of Kaya Chikitsa, MJF Ayurvedic College, Jaipur, Rajasthan, India

ARTICLE INFO	ABSTRACT
<p>Received : 21 February 2023 Revised : 16 May 2023 Accepted : 18 May 2023</p> <p>Available online: 17 August 2023</p> <p>Key Words: Ayurveda Charmakeela Garlic Human Papilloma Virus Triphala 777 oil</p>	<p>Deep plantar warts are the most common cutaneous lesions of the plantar aspect of the foot caused by Human papilloma Virus (HPV), mostly occur in children and adolescents. Most of the HPV infections are controlled by the humoral or cellular immune responses. But in few of the population groups these are manifested very frequently compared with other group of population. The virus sheds from the lesions and may infect the other sites of the plantar aspect or affect other parts of the body. Here we present a case of plantar warts which was successfully treated with multiple ayurvedic treatment modalities. This paper describes the case of a thirteen-year-old boy who presented to our hospital's outdoor department with plantar warts since seven days. The patient was treated holistically with ayurvedic treatment modalities including soaking feet in lukewarm triphala decoction, topical application of garlic paste with 777 oil and an ayurvedic oral medication, <i>pancha tikta ghrita guggulu</i>, and the patient was cured completely in 20 days with 100% clearance and even after four years of follow up there was no sign of recurrence. The holistic approach of these ayurvedic treatment modalities have proven as effective and safe in treating the plantar warts.</p>

Introduction

Warts are the lesions caused by Human Papilloma Viruses (HPV). Over 100 strains of HPV have been identified (Lawley *et al.*, 2001). The virus infects the mucous membranes and skin epithelium and can be asymptomatic or be associated with both malignant and benign neoplasms or develop warts (Brown *et al.*, 2001). Most common cutaneous warts are common warts, plane or flat warts and deep plantar warts. Deep plantar warts also known as Verruca Plantaris (Brown *et al.*, 2001) (which means "ant hill" in Greek)/ Myrmecia (Mandell *et al.*, 2000), mostly affect the plantar aspect of the foot in young adults and adolescents. HPV is released by plantar warts, which can spread to other places in the plantar region or other people (Witchev *et al.*, 2000). The lesions are 2 mm to 1 cm in diameter and appear as raised bundles of soft keratotic fibres. Shaving of these lesions reveal punctate, bleeding blood vessels (Mandell *et*

al., 2000). *Charmakeela*, a clinical ailment explained in Ayurveda that is similar to warts and is addressed in the context of *Arshoroga nidana* by *Susruta*, narrated it as a peg or nail-shaped, immovable lesion on the outside of the skin caused by exacerbated *vyana vayu* in association with *kapha*. The cardinal feature of *charmakeela* is extreme roughness. Conventionally, an armamentarium of wart treatments is available which include cryotherapy, application of keratinolytic agents such as salicylic acid plasters or solutions, podophyllin, topical imiquimod. Cryotherapy with liquid nitrogen (Brown *et al.*, 2001) is one of the most useful and convenient methods of treating warts in nearly any place. The location of the wart, the extent of the disease, the patient's age, and his or her immunological status are all factors that influence treatment options (Brown *et al.*, 2001). However, no single therapy appears to be uniformly or universally beneficial

Corresponding author E-mail: dr.swapnaraja@gmail.com

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and wart recurrence appears to be a regular occurrence across all of these treatments.

In Ayurveda, treatment for *Charmakeela* was explained by author *Susruta* as *Chedana* (Excision) (Sharma.P.V.,1999), *Kshara Karma* (application of caustic agents) (Sharma.P.V.,1999) and *Agnikarma* (cauterization) (Sharma.P.V.,1999)). But in this case because of extensive involvement of the lesions in almost whole sole, none of the above recommended therapies were used for treatment. Only bheshaj chikitsa (conservative treatment) was adopted involving multimodal therapies such as *avagah swed* (soaking feet in medicated decoction), topical application and oral medication. Here we present a case of plantar warts which was successfully treated with above said comprehensive ayurvedic multiple treatment modalities.

Material and Methods

Case Presentation:

A healthy 13-year-old boy presented to National Institute of Ayurveda Hospital, Jaipur, Rajasthan, India on 27th January 2019, with multiple painless plantar lesions on sole of left foot for the past seven days. There were no other associated symptoms, such as itching or drainage. Patient’s parents approached directly for Ayurvedic treatment without any prior interventions. On 20th January, 2019 while wearing shoes, he noticed few white lesions on the sole of his left foot. Over the next seven days, the lesions multiplied and expanded in

size, encompassing nearly the whole medial aspect of sole of his left foot. Because of winter season he has been wearing linen socks throughout the day for the last four months. Socks that hadn't been washed were frequently used by the patient for school. There is no history of such lesions in the family.

On physical examination, multiple, medium to large, hyperkeratotic, confluent plaques filled with punctate black dots on the medial aspect of sole of the left foot extending from first, second and third toes down to the heel. The diagnosis was made as Plantar warts on the clinical ground. We treated the patient with ayurvedic multimodal therapies which comprised of soaking feet in lukewarm *triphala* decoction (*avagaha swedam*) twice daily for ten minutes each time; topical application of a paste of two crushed garlic cloves after mixing with sufficient quantity of 777 oil before bed and leaving it for overnight for twenty days; and an ayurvedic oral medication, *pancha tikta ghritha guggulu*, two tablets twice daily with lukewarm water after meals for one month (Suggested to consume for ten more days after complete clearance of lesions). The patient was educated on self-care practices such as to refrain from wearing socks or shoes, practice good personal hygiene, wash socks after each use, and properly dry shoes in between uses. Clinical improvement of the patient across different timelines is depicted in Figure 1.

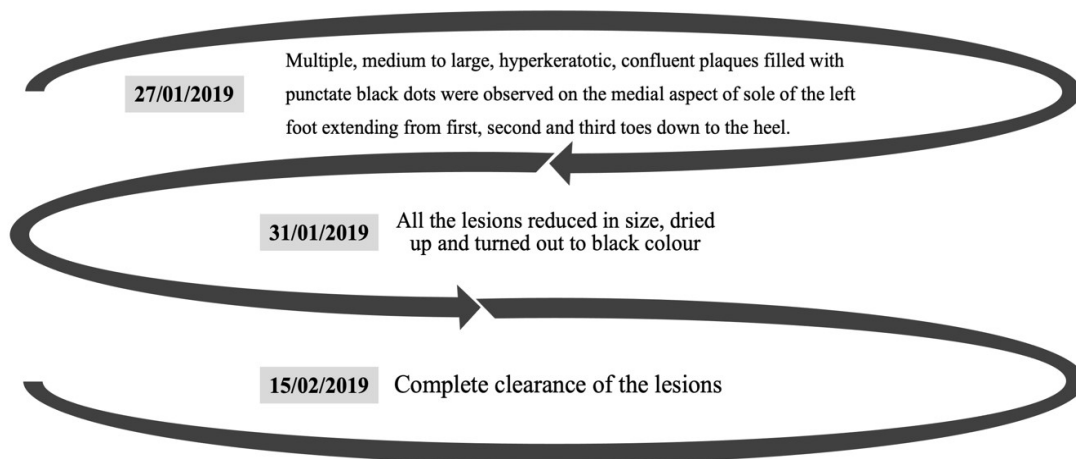


Figure- 1: Patient’s clinical improvement across different timelines

Results and Discussion

A significant improvement was observed by the fifth day of treatment. All of the lesions dried up and turned out into black color, and by twentieth day, the lesions have completely healed and disappeared. Photographs were captured at presentation on the first day of visit (Figure 2), during treatment on the fifth day (Figure 3) and after completion of treatment on twentieth day (Figure 4). Although the patient was not strictly adherent to one of the interventions- soaking feet in *triphala khada* (followed only for ten days), but continued to take oral medication and topical application till the clearance of the lesions. The medication is well tolerated and has no local or systemic adverse events. After a four-year follow-up period, there was no sign of recurrence. Patient and patient's parents are ecstatic with the outcome of this ayurvedic treatment. Patient claims that he was very comfortable with every therapeutic modality and felt conducive in practicing the procedures like soaking feet in decoction, topical application and oral medication, which rendered complete yield clinically.



Figure 2: Showing the clinical presentation of plantar warts of patient on day one



Figure 3: Showing the clinical improvement of the patient on day five



Figure 4: Showing the complete clearance of plantar warts on twentieth day of treatment

Despite widespread acceptability, the plantar warts clearance rate is just 50% following three months of treatment at three-week intervals. Furthermore, due to the ongoing irritation, high relapse rate, and cutaneous secondary bacterial infection, plantar warts patients are less likely to follow up (Witchey *et al.*, 2018). Majority of these ablative treatments are traumatic, causing local tissue loss, discomfort and inflammatory reactions on the surrounding skin (Jones *et al.*, 1994). On the other hand, Ayurvedic multimodal treatments have not been associated with any local or systemic side effects. The drugs used for the treatment have potential antiviral properties. *Triphala*, the fruits of three medicinal plants; *Terminalia chebula* Retz. (*Hareetaki*), *Terminalia bellerica* Roxb. (*Vibheetaki*) and *Emblica officinalis* Gaertn. (*Amlaki*), is considered as most versatile of all herbal formulations had proven antibacterial, antiviral, antifungal, antihelminthic, antimutagenic and anticarcinogenic properties (Gupta, 2012). In a study *T. chebula*'s hot water extract had shown antiviral activity against herpes simplex virus (HSV) in in-vivo and in both in-vivo and in-vitro antiviral activity against cytomegalovirus (CMV) (Yukawa *et al.*, 1996).

777 oil is a clinically proven medicine for psoriasis and other skin disorders, contains extracts of (*Shweta Kutaj*) *Wrightia tinctoria* 50% in coconut oil base (*cocos nucifera*) 50%. The methanolic extract of *Wrightia tinctoria* has shown flavanoids and alkaloids in it. "*Wrightia tinctoria*'s instrumental analysis of Methanolic extract was carried out by using different analytical techniques such as HPLC, UV and TPLC which has shown the presence of few indole derivatives such as indurubine and isatin exhibiting potential anti-viral

activity” (Adake and Rao, 2011). In few studies wrightia tinctoria has shown anti-HIV and anti-HCV activity (Selvam *et al.*, 2009). Garlic: Garlic’s (*Allium Sativum*) components have been proven to have antiviral activity (Rouf *et al.*, 2020) and impede the growth of virally infected cells. “In one placebo-controlled trial, topical application of chloroform extracts of garlic had shown complete eradication of cutaneous warts with no recurrence after 3- 4 months” (Dehghani *et al.*, 2005). In a clinical trial, complete clearance of male genital warts was observed with topical application of 10% of methanol garlic extract for 2 months (Mousavi *et al.*, 2018). Garlic's exact mode of action is unknown, although a few in-vitro studies have revealed that it can strengthen natural killer (NK) cells, which are regarded as a crucial component of the immune system in combating malignancies, viruses, and some bacteria (Agarwal, 1996).

Pancha tikta ghritha guggulu is an ayurvedic leading drug advisable in many of the skin diseases and works as a blood purifier. The cumulative effect of all these multimodal treatments had yielded marked results with total clearance of plantar warts in just twenty days and no relapse was observed after four years of follow up.

Conclusion

In conclusion, this ayurvedic multimodal treatment protocol can be a good alternative in the treatment of viral warts. Patient tolerance and satisfaction score are high without any local or systemic adverse reactions and the drugs are well accepted by the patients. As a result, these comprehensive therapy techniques are strongly recommended.

Conflict of interest

The authors declare that they have no conflict of interest.

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