Successful Treatment of Recalcitrant Warts with the Chinese Herb

E. ebracteolata Hayata

Case Report

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Abstract Warts are benign proliferations of the skin and mucosa caused by an infection resulting from the human papilloma virus. Plantar warts (verruca plantaris) are known to be particularly difficult to treat and eradicate. We herein report a case of recalcitrant plantar warts that was successfully treated with the Chinese Herb E. ebracteolata Hayata.

Keywords Warts, Human Papilloma Virus, E. ebracteolata Hayata

1. Introduction

Warts are benign proliferations of the skin and mucosa caused by infection with human papillomavirus (HPV). At least 189 HPV genotypes have been described thus far [1]. Plantar warts (verruca plantaris) are known to be difficult to treat and eradicate. They are caused by a proliferation of HPV on the plantar surfaces of the feet; the most common serotype is HPV 1 [2].

Conventional treatment strategies are often destructive in nature. Many different treatments have been described for HPV-induced lesions. CO₂ laser therapy and cryotherapy are the most frequently treatments for common warts employed by dermatologists. Other known plantar wart therapies include intralesional bleomycin [3], application of topical podophyllin and cantharidin [4], and the use of topical salicylic acid. These treatments are useful for a single wart or a few warts. However, none are effective for treating a large number of warts. CO₂ laser therapy and cryotherapy may cause a high rate of adverse effects, such as pain and scarring.

Here, we present a well-documented case of recalcitrant common warts treated with E. ebracteolata Hayata.

2. Case Report

A 54 year-old woman was admitted to Shuguang Hospital in January 2009 with the chief complaint of progressive excrescence on her feet that had persisted for more than 10 years. The first wart was noticed 10 years previously. Within 3-4 years it had reached its maximum size and had spread to multiple surrounding sites. At the time of the present treatment, there were 6 large (the largest one approximately 18mm in diameter; white arrow Figure 1A)
common warts and 46 smaller warts (5mm to 10mm) at the base of and on the bottom of the feet (small arrows, Figure 1A). Over the course of the previous 8 years, the patient received various treatment modalities including cryotherapy and CO2 laser therapy, as well as other topical therapies such as retinoids, salicylic acid and bleomycin, all of which were unsuccessful despite perfect compliance. Recently, she had experienced considerable pain and embarrassment when walking because the warts were getting larger by the day. No known infectious disease or immunosuppression was present. Dermatological examination revealed extensive, thick, hyperkeratotic, elevated and rounded multiple papules with a rough, greyish surface on the left foot (Figure 1A).

A tissue biopsy specimen of the lesion revealed extensive hyperkeratosis, acanthosis, papillomatous epidermal projections and parakeratotic columns overlying the papillomatous projections that appeared to point radially towards the centre (Figure 2).

![Figure 1. Appearance of warts prior to E. ebracteolata Hayata (Panel A) and at 12 weeks (Panel B) and 6 months (Panel C). Large arrow indicates the largest wart on the hallux was markedly diminished at 12 weeks. All the large and small warts were gone by 6 months.](image)

The determination of HPV by polymerase chain reaction (PCR) was performed on a skin specimen. It was found that the presence of HPV-DNA was amplified with a broad range of DNA primers named FAP59/FAP64 (Forslund et al., 1999) (Figure 3). A diagnosis of verruca vulgaris was made based on the above clinical characteristics and histopathological and PCR examinations.

![Figure 3. Detection of HPV DNA in biopsy tissue. Lane M, marker DNA. Lane 1, negative control (no HPV DNA). Lane 2, negative control (no Primers). Lane 3, Sample DNA with Primers. Electrophoresis of polymerase chain reaction products for HPV-DNA demonstrates distinct band in lane 3 (black arrow).](image)

Treatment was undertaken by topical application of the Chinese herb E. ebracteolata Hayata (Figure 4A) obtained from Xu Chong-Dao Herbal Pieces Factory (Shanghai). Pharmaceutical preparation: rhizomes (30g) of E. ebracteolata Hayata (Figure 4B) were placed in water (1000ml) for 30 minutes, boiled for 20 minutes, cooled to 45°C and then the feet of the patient were soaked in this aqeous solution (Figure 4C) for 15 minutes. The solution was applied to all warts twice daily as directed. Most of the large warts had diminished markedly at 12 weeks (Figure 1B). Six months later, the warts had disappeared without any pain or other side effects (Figure 1C). The warts have not recurred for 9 months since they first disappeared. The medication was well tolerated and no adverse effects were observed. In addition, this treatment resulted in no irritation of the surrounding skin. The only scar (small arrows, Figure 1C) at the base of and behind the feet was due to the cryotherapy and CO2 laser therapy that were used before the treatment.

![Figure 2. Histopathological examination of the lesion](image)
3. Discussion

Warts can have psychologically devastating effects on the life of a patient [8] and the emotional impact of any treatment should not be overlooked. The results of the present case report suggest that *E. ebracteolata Hayata* is an effective treatment for recalcitrant verruca vulgaris. In contrast to destructive or dermonecrotic treatments, such as cryotherapy and CO2 lasers, *E. ebracteolata Hayata* treatment for warts is not painful and does not cause any scarring. Recrudescence was not seen in this case.

The herb *E. ebracteolata Hayata* has not been used thus far to treat warts. There are a number of plausible mechanisms by which *E. ebracteolata Hayata* may affect HPV-induced lesions. It may regulate epithelial cell differentiation and abnormal keratin expression [8] and/or disrupt the interplay of HPV replication and epithelial cell differentiation [7], thereby allowing normal tissue to replace the warts. Immune mechanisms may also be involved in wart clearance [8]. *E. ebracteolata Hayata* treatment may induce or increase the activation of T or B cells in the HPV infected skin, which leads to the clearance of the warts. In addition, it is a safe method as there is no irritation of the surrounding skin or flaking.

The treatment was inconspicuous and did not attract further attention to the warts and is therefore unlikely to cause any additional psychological distress. The findings suggest that *E. ebracteolata Hayata* should be further investigated in controlled studies to determine its effectiveness in treating common warts as well as a broad range of other benign and cancerous lesions induced by HPVs.

4. Consent

Informed consent was obtained from the subject for publication of this Case Report and the accompanying images.

5. Acknowledgments

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6. References


