Recurrent Verruca Vulgaris Treated with Combination of 80% Trichloroacetate and Electrosurgery: a Case Report

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ABSTRACT
Background: Verruca vulgaris is one of the most common benign skin tumor caused by human papillomavirus (HPV) type 1, 2, 3, 4, 27 and 57. HPV caused infection is often recurrent leading to frustration due to loss of time and medical expenses. Monotherapy gives a varied response, and in the case of recurrence, combination therapy can be an option. **Purpose:** To evaluate the cause and management of recurrent verruca vulgaris. **Case**: This is a case report of a 33 years-old man complaining of a recurrent wart with a rough surface on his right index finger in the past three months. Initially the patient was treated with electrosurgery, but the warts came back. The patient was a smoker. The warts disappeared after electrosurgery and two sessions of 80% trichloroacetate (TCA), and at the 4th week of observation no new lesion was reported. **Discussion:** Recurrence of verruca vulgaris often occurs using monotherapy, thus requires other modalities. The combination of electrocautery and 80% TCA provides good clearance with low recurrence. **Conclusion**: Combination treatment for recurrent warts is effective for clearing the lesion and prevent recurrence.

Keywords: verruca vulgaris, recurrence, trichloroacetate, electrosurgery.

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BACKGROUND

Verruca vulgaris is a benign skin tumor caused by human papillomavirus (HPV).[1–3] Clinical manifestations are epidermal hyperplasia, papillomatosis, and hyperkeratosis.[4,5] The transmission of Verruca vulgaris is relatively easy. It can be through direct contacts or inoculation and trauma so that the incidence of verruca vulgaris is high.[6]

Verruca vulgaris is often found on hands, arms, and legs. HPV type and location affect the clinical appearance of verrucae.[7] Recurrent verruca vulgaris is influenced by several factors, including age, virus reinfection, subclinical HPV deoxyribonucleic acid (DNA) immune status, and smoking.[8] Therapy on recurrences could be an invasive method such as cryotherapy, electrocautery, and laser.[9,10] Varied results were found in the treatment of verruca vulgaris using either topical or conventional invasive therapy.[2,3] Recalcitrant or recurrent case requires a promising approach based on available modalities. Several case reports showed an excellent genital warts clearance and reduced recurrent warts with the combination of electrocautery and 80% trichloroacetate (TCA)[11,12] Combination therapy is considered in recurrent and recalcitrant verruca vulgaris. This case report discusses and enhances the understanding of recurrent verruca vulgaris and its treatment with the combination therapy.

CASE REPORT

A 33-year-old- Balinese male complained of warts appearing on the index finger of his right hand, since three months, said to be painful to touch. The warts firstly appeared 5 months ago on the index finger of the right hand. Electrosurgery was then performed, but warts reappeared. No complaints of itching, bleeding on the warts was reported. The patient was an active smoker.

Physical examination revealed a solitary plaque with verrucous surface and hard on palpation on the right index finger (figure 1). Dermoscopy was performed and showed papilliform structure with yellowish colour surrounded by a whitish halo examination (figure 2). The diagnosis of recurrent verruca vulgaris was established.

Figure 1A. Solitary plaque with a verrucous and hard surface. **1B**. Post therapy, at the 4th week of observation no new wart was found.

Figure 2. Dermoscopy examination showed papilliform structure with yellowish colour. (red arrow)

The treatment given was electrosurgery followed by 80% trichloroacetate (TCA) at 1-week intervals. The patient was advised to reduce smoking. After treated with 80% trichloroacetate twice, no new wart was found. The patient's agreement regarding the publication of his skin picture was received.

DISCUSSION

Verruca vulgaris is a benign proliferation of skin and mucous membranes caused by HPV. The prevalence of verruca vulgaris varies in both adults and children.[13] The HPV has more than 120 different types, with the most common types being 1,2,3,4,27, and 57.[14]

The verruca vulgaris recurrence is caused by several factors. A study conducted by Bencini et al., shows people aged 25 years or above have a twice higher risk of recurrence.[8] In addition, smoker has a five times higher risk of recurrence than non smoker. Smoking is known to have chronic effects in the form of inflammation and decreased immune response.[15] The interaction between human macrophages and extracellular matrix proteins is modified by smoking, which dramatically down-regulates macrophages ability to phagocyte apoptotic neutrophils.[8] This mechanism seems to be the cause of recurrence in this case.

Verruca vulgaris appears in various types with dense hyperkeratotic appearance and rough papules

that can form large masses confluent.[14] All areas of the skin can be affected, but the most common sites are the hands and feet because of the ease of trauma. In this patient, verruca vulgaris was located on the right index finger

Although verruca vulgaris can be diagnosed based on a skin lesion picture, sometimes clinical manifestations are similar to those of other lesions. Examination using dermoscopy can help to differentiate. Dermoscopy examination exhibit multiple papules, frogspawn, papilloform structure with yellowish color and whitish halo. In atypical lesions, histopathological examination is required for diagnosis.[16] In this case, dermoscopy displayed a papilloform structure with a yellowish color surrounded by a white halo.

Treatment of verruca vulgaris, especially in cases of recurrence, is still a challenge for clinicians. Variable results were found with either topical or conventional invasive therapy.[2,3,17] Combination therapy can be given in recurrence or recalcitrant cases. Electrosurgical therapy is a destructive therapy that aims to damage or remove the lesion, but not kill the virus. Electrosurgical therapy is frequently performed, with a success rate of 65-85%. However, scarring and recurrence can occur in up to 30% of patients.[18] Eighty-percent TCA is a topical chemical destructive agent recommended for use in genital, vaginal, and anal warts by causing cells death. Therapy using TCA with a concentration of 70%-80% has a response rate comparable to cryotherapy.[19] The advantages of using TCA are less systemic toxicity, minimal pain, and faster healing time. However, the disadvantages are burning sensation, hyperpigmentation, and rarely scar tissue formation in certain cases.[20]

The therapy that given in this case was combination of electrosurgery and 80% TCA at 1 week interval. The patient complained of minimal pain and burning sensation. At the 4th week observation, no new wart was found. The TCA has a similar viscosity to water and is easy to penetrate on the superficial layer of the skin.[11,12] Sometimes the small or micro lesion is not enough visible to treat with electrocautery. Thus, combining TCA might have a support mechanism that reduces recurrence However, a combination of electrocautery with TCA 80% could increase normal or surrounding tissue injury. Generally, the prognosis for verruca vulgaris is satisfactory, but recurrence can occur if there are risk factors such as smoking.

A case of recurrent verruca vulgaris has been reported in a 33-year-old man. The diagnosis of recurrent verruca vulgaris is based on history, physical and dermoscopy examination. Management of the patient was in the form of combination therapy of electrosurgery followed by the application of 80% TCA at 1-week intervals. At the 4th week of observation, no new wart as found. Prognosis is dubious due to the patient's persistent smoking habit.

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