

Comparative efficacy of Electrosurgery with topical 50% Trichloroacetic acid in treatment of warts

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Abstract :

Introduction : Verruca vulgaris is the common benign proliferation of the skin that are encountered in dermatological practice caused by Human Papilloma Virus. The clinical management of verruca vulgaris is often challenging. Multiple modalities of treatment are currently existing, but none of them is singularly effective.

Aim : This study was designed to compare the therapeutic response of warts to trichloroacetic acid versus electrosurgery.

Materials and methods : This is a randomized double blind prospective study. The study was carried out for 12 months and it included 60 patients. Patients with genital warts, immune compromised patients, pregnant and lactating mothers are excluded in the study. Statistical Analysis used: chi square test.

Results: Electrosurgery was used in 30 patients with complete clearance in 27 cases. 50% TCA was used in 30 cases with complete clearance in 7 patients.

Conclusions: Electrosurgery treatment in warts is the best treatment when compared to 50% Trichloroacetic acid

Key words: verruca vulgaris; Electrosurgery; 50% Trichloroacetic acid(TCA)

Introduction :

Warts or verrucae are caused by human papillomavirus, belonging to the family Papoviridae. Various morphological patterns known as verruca vulgaris (common warts), verruca plana (plane warts or flat warts), plantar warts, filiform warts, digitate warts and anogenital warts (condyloma acuminata) occur. This infection can cause physical and emotional distress in patients. A variety of therapeutic modalities are available, but to date no single therapy has proven uniformly successful. Recurrence rates for therapies are relatively high¹.

Electrosurgery is a common mode of treatment and it involves the principle of tissue destruction by heat². But this method has the disadvantage of causing pain, scarring, respiratory papillomatosis in the operator and high recurrence rate³.

In this study, an alternative mode of therapy with topical 50% trichloroacetic acid was evaluated. Trichloroacetic acid is a caustic and hemostatic agent. A saturated solution could be used alone for the treatment of many

benign and dysplastic skin lesions. A solution of TCA is applied topically and must be allowed to dry until a white frosting develops and its application is accompanied by a burning sensation that lasts for two to five minutes⁴.

We undertook this study to compare the efficacy of topical 50% TCA and Electrosurgery.

Materials and Methods :

Study Design: Prospective randomized double blind study 60 consecutive patients with warts attending department of dermatology and venereology were subjects for the study. Sixty patients were randomly selected by envelope method. Study was done over a period of one year

Inclusion criteria: Patients presenting with all morphological types of warts irrespective of age, sex and duration were included in the study.

Exclusion criteria: Patients with genital warts, immune-compromised patients, pregnancy and lactating women were excluded from the study.

A detailed history regarding the age, sex, occupation, duration of disease, family history of disease was obtained. A thorough dermatological examination was done taking care to note morphology and distribution of warts. All cases were diagnosed by paring. Written consent was obtained from all the patients.

The two modalities tried were:

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a. Electrosurgery

b. 50% TCA

(a) Electrosurgery

Prior to the electrosurgery, the procedure was explained to the patient in detail to remove apprehension. The procedure was carried out in Minor-OT with adequate lighting. The operator and assistant wore mask to prevent exposure to smoke born microbes. Preparatory to electrosurgery, the lesion and surrounding skin was cleaned with povidine-iodine. Alcohol was not used because of the potential for alcohol to ignite with electrosurgery. 1% lidocaine with epinephrine was used for local anaesthesia. The procedure was undertaken with the patient in lying down position. After removal of the wart, the base was again cauterized until bleeding stopped completely. The wound was dressed with sterile gauze. Follow-up was done every month for 6 months.

(b) 50% TCA

The reagent was applied carefully avoiding normal skin using a sharpened matchstick biweekly and the patient was trained thus to do it at home. The lesions were treated for a period of six weeks or till the disappearance of the lesions whichever is earlier. After the disappearance of the lesions, the patient was followed up every month for a period of 6 months.

The results were assessed as follows: "Complete clearance" was defined as total clearance of warts, with no evidence of residual warts. "Partial clearance" was defined as improvement in the number and or size of warts, but without complete eradication of warts." No improvement" was defined as warts in which there is no reduction in number or size or worsened with treatment. All patients were followed-up monthly for a period of 6 months. Reappearance of warts, at the sites of earlier lesions during follow up was considered as "Recurrence".

Statistical Analysis Used : Chi Square test

Results:

Out of 60 patients included in the study, 39 were males ; 21 were females. Most of the patients were between 16 to 30 years, accounting for 58% cases. 40% of the patients were students by occupation. Nearly half of the patients(45%) had disease duration of 1 to 6 months. The most common affected site was hands (32%), followed by feet (30%) and face (26%). Verruca vulgaris was the most common morphological pattern seen (42%), followed by plantar warts (30%), plane warts(20%); anogenital warts(4%); filiform warts (4%).

In electrosurgery group of 28 patients (93%) had "complete clearance". Two patients had "recurrence"

as shown in [fig – 1] and [Table-1] . In 50% TCA group of 7 patients had "complete clearance". Three patients had "recurrence". In 18 patients there was "no improvement" and 2 had "partial clearance" as shown in [Table-2] and [fig – 2] .

As per the statistical analysis electrosurgery treatment was superior to the 50% trichloroacetic acid ($P < 0.001$).

Discussion:

In the present study 60 cases of verruca were evaluated for comparative efficacy of topical 50% TCA solution against conventional electrosurgical method.

Electrosurgery :

In the present study out of 30 patients subjected for electrosurgery there was "complete cure" in 28 patients (93%) and in 2 patients there was "recurrence".

Chang et al.⁵ in their study of 302 patients with warts, 11 patients were treated with electro-cautery. Eight patients had complete clearance(72.2%). As compared to above study, in the present study shows higher rate of complete clearance. This could be attributed to more numbers of patients in the present study.

Alexander Berman.⁶ used electro-surgery for 2 patients with flat warts found "complete clearance" in both patients. The above study had no recurrence in comparison to present study; this could be attributed to less number of patients in the above study.

Topical 50% TCA:

In the present study, out of 30 patients in which 50% TCA was utilized, there was complete clearance in only 7 patients. In 18 patients (60%) and there was no response, 2(66.66%) patient had partial clearance and in 3 patients(10%) there was recurrence.

Pezeshkpoor et al.⁷ in his study used different concentration of TCA(80% and 35%) in 62 patients and showed complete clearance to TCA 80% in 14 patients(46.7%) and TCA 35% in 3 patients (12%). The above study showed more complete response to high concentration of TCA in comparison to present study which showed poor response to TCA.

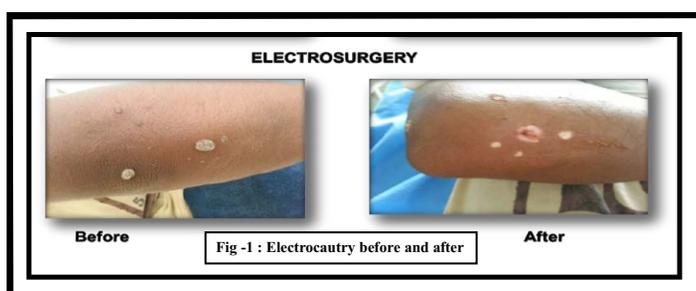
Conclusion:

Warts or verrucae are one of the commonest conditions in dermatological practice. Though spontaneous cure is known in warts it is not possible to wait for the same. Though there are many modalities of treatment there is no specific treatment because the selection of modality of treatment depends on the size, location, type of lesions, chances of side effects and patient's willingness to treatment. In view of the absence of a universally specific treatment many modalities of therapy exist and many remedies are added frequently. In the present study

concluded that electrosurgery scored over the TCA 50% method for the treatment of warts, as there was significant decrease in the recurrence after electrosurgery therapy.

Percentage	No. of patients	Result
93%	28	Complete clearance
-	-	Partial clearance
-	-	No improvement
Recurrence	2	6.6%

[Table- 1] Response to Electrosurgery : In electrosurgery group 28 patients (93%) had “complete clearance”. 2 patients had “recurrence”



Percentage	No. of patients	Result
23.3%	7	Complete clearance
6.6%	2	Partial clearance
60%	18	No improvement
10%	3	Recurrence

[Table-2] Response to TCA 50%: In present study, out of 30 patients only 7 patients had “complete clearance” and 2 had “recurrence”. In 19 patients there was “no improvement” and 2 had “partial clearance”



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