Cryosurgery Vs 40% Salicylic Acid in treatment of warts

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Abstract

Back ground: Verruca Vulgaris is one of the commonest skin diseases in dermatological practice. The clinical management of Verruca vulgaris is often challenging. Multiple modalities of treatment currently exist, but none of them is singularly effective.
Aim: : comparative study between Cryosurgery and 40% salicylic acid in the treatment of warts.
Settings and Design: This was a randomized single blind prospective study
Methods and Materials: The study was carried out for 12 months and it included 60 patients. Patients with genital warts, facial warts immunocompromised patients and pregnant females were excluded from the study.
Statistical Analysis Used:chi square test (P=0.0000) .
Results: There were 60 cases of warts. Cryosurgery was used in 30 cases with complete clearance in 21 cases. 40% salicylic acid was used in 30 cases with complete clearance in 5 patients.
Conclusions: Cryosurgery treatment in warts was better when compared to 40% salicylic acid.
Key words: Warts,Cryosurgery ,40% Salicylic acid.

Introduction

Warts are one of the commonest of the viral infections encountered in dermatological practice, caused by Human papilloma virus [1]. Though there are many modalities in the treatment of warts, none of them is singularly effective. Thus it is rightly acknowledged that treatment of warts is not merely a science but an art. The multitude of therapies that have been described so far and those which are undertrial reflect the imperfection and inadequacy of the existing modalities conforming the Human papilloma viruses the title of 'treatment nuisance. Current treatments for verrucae involve destruction of the infected cells by physically or chemically damaging it and the decision depends on the size, location, number, type, age of the patient, risk of scarring and patients commitment to the therapy. Warts are benign epidermal proliferations that have been recognized for thousands of years [2]. Until 19th century genital warts were believed to be a form of Syphilis or Gonorrhea [3].

Material and Methods

Study Design

Prospective randomized double blind study 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. If the patient had used other treatment then wash out period was 6 weeks.

Exclusion Criteria

Patients with facial warts, genital warts, immunocompromised patients and pregnancy were excluded. A detailed history regarding the age, sex, occupation, duration of disease, family history of disease was obtained. A thorough dermatological

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examination was done taking care to note morphology and distribution of warts.Written consent was obtained from all the patients. Clearance from the special ethical committee was obtained for the study.

The two modalities tried were –

a) Liquid Nitrogen

b) 40% Salicylic acid

Thirty cases were selected under each group randomly, each patient was followed up monthly for a period of six months and results were compared at the end of 6 months.40% Salicylic acid was prepared by mixing 40gms of Salicylic acid powder with 60gms of white soft paraffin.

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" and no improvement" with no reduction in number or size or worsened with treatment. Reappearance of warts, at the sites of earlier lesions during follow-up was considered as "Recurrence".

Statistical Analysis Used:Chi Square test(P=0.0000) .

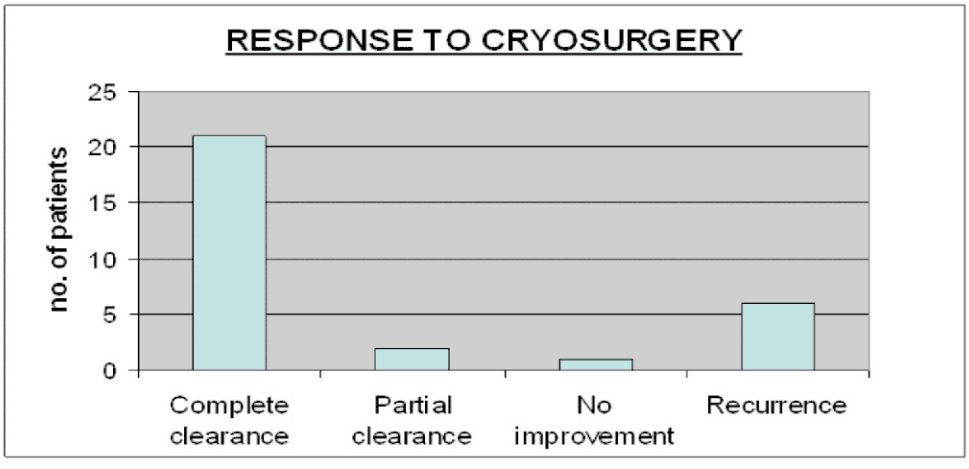
Results

In cryotherapy group 21 patients (70%) had "complete clearance",06 patients had recurrence as shown in [Table 1] and [Bardiagram 1].In the Salicylic acid group 05 patients(16.6%) had "complete clearance". 03 patients had"recurrence" .In 20 patients there was "no improvement" and 2 had "partial recurrence" as shown in [Table 2] and [Bardiagram 2]. As per the statistical analysis cryosurgery treatment is superior to the 40% Salicylic acid treatment (P<0.001) Images of pre and post treatment of cryosurgery, 40% Salicylic acid are shown in figure 1a, figure 1b and 2a and figure 2b respectively.

Table 1. Response to Cryosurgery

RESULT	NO. OF PATIENTS	PERCENTAGE
Complete clearance	21	70%
Partial clearance	02	6.6%
No improvement	01	33.3%
Recurrence	06	20%

In the present study cryotherapy showed complete clearance in 21 patients (70%), partial clearance in 02 patients, no improvement in 01 patient and recurrence in 06 patients.

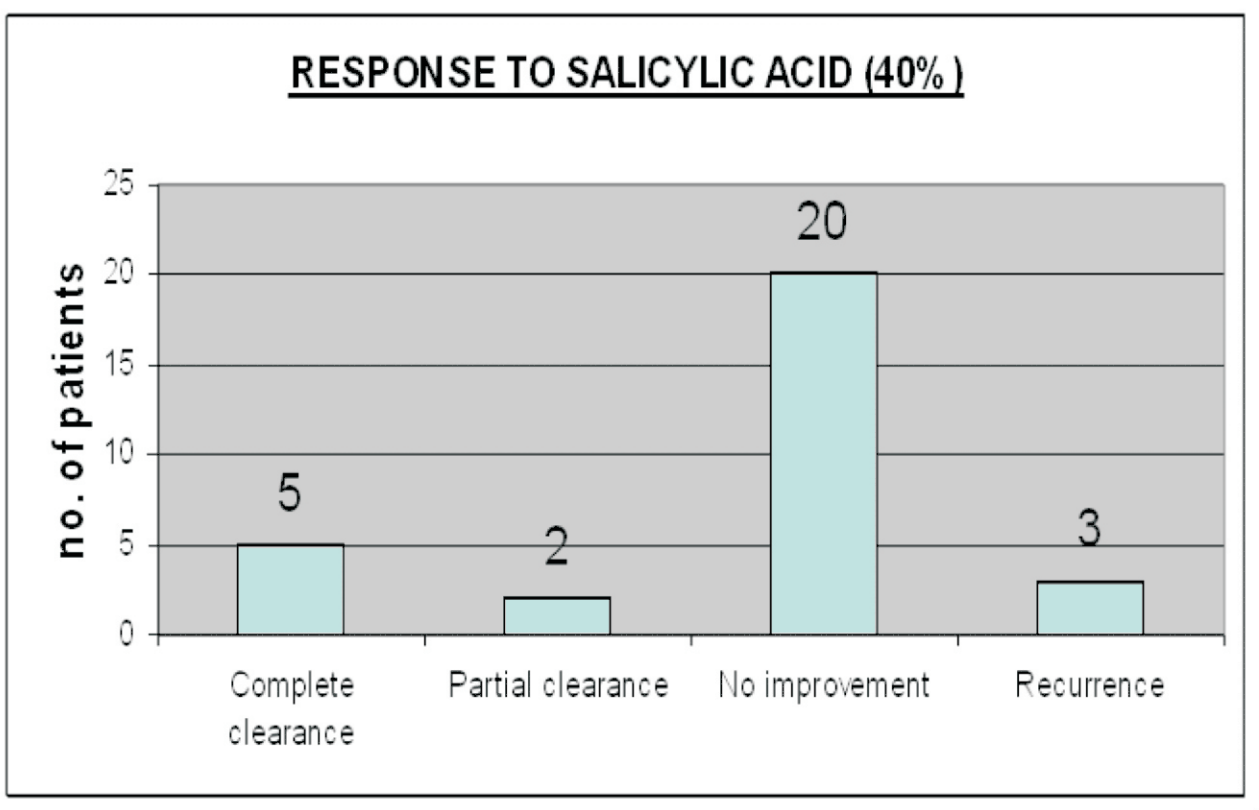


Bardiagram-1

Table 2. RESPONSE TO SALICYLIC ACID (40%)

RESULT	NO. OF PATIENTS	PERCENTAGE
Complete clearance	05	16.6%
Partial clearance	02	6.6%
No improvement	20	66.6%
Recurrence	03	10%

In the present study, out of 30 patients only 05 patients had complete clearance and 3 had recurrence . In 20 patients there was no improvement and 2 had partial clearance



Bardiagram-2

Figure 1a. Before Cryosurgery

Figure 1b. After Cryosurgery

Figure 2a. 48 hrs after applying 40% Salicylic acid treatment

Figure 2b. After 40% Salicylic acid treatment

Discussion

Cryosurgery

In the present study, out of 30 patients subjected for cryosurgery, there was "complete cure" in 21 patients. In one patient there was "No improvement" and two patients had "partial clearance". "Recurrence" during follow up was seen in six patients. Kuflik [4] has mentioned about the usefulness of cryosurgery by dipstick method and a cure rate of 97. 4% in periungual lesions.As compared to our study, percentage of "Complete clearance" was high in the above study. This could be attributed to dipstick method and all the patients had periungual warts in the above study, while in the present study all types of w arts were subjected to spray method using cryogun. Theng et al [5] used cryosurgery for 267 patients, found "complete clearance" in 129 patients (48.3%). In comparison with the above study percentage of "complete clearance" in the present study is high. This could be attributed to the difference in sample size. Less. Other reason is, lesions were pared before performing cryosurgery in the present study.

Rademaker et al [6] in his study, on 12 patients of treatment resistant mosaic plantar warts, treated with cryotherapy under general anaesthesia,found Seven patients (58%) with "complete cure", 3 patients with "no improvement". As compared to present study, percentage of "complete clearance" in the above study is less. Because, all the patients had resistant plantar warts.

Connolly et al [7] in his study on 200 patients of warts, in which 100 patients were subjected to traditional method of liquid nitrogen and 100 patients to sustained 10 seconds freeze. 188 patients had warts over hands and feet. 12 patients had warts over other sites. 49 (64%) patients in 10 second freeze group were clear of warts as compared with 39% (31) of those in traditional freeze group. As compared to above study, percentage of "complete clearance" was higher in the present study. This could be attributed to less number of subjects enrolled in the study and warts were freezed until a halo of white was seen around the wart. Ahmed et al [8] in his study of 363 patients of warts over hands and feet, found cure rates of 47% in cotton wool bud group and 44% in the cryospray group. Defaulters were 87 in cotton wool bud and 69 in cryospray group. As compared to above study the percentage of "complete clearance" was high in our study. This could be attributed to all warts were on hands and feet with more defaulters in the above study as compared to our study.

Berth Jones et al [9] in his study of 300 subjects of warts over hands and feet, found of complete clearance in 57% from the single freeze cotton wool bud technique and 62% from the double freeze cotton wool bud technique using liquid nitrogen.

As compared to above study percentage of complete clearance in the present study was high. This could be attributed to location of warts and more number of subjects enrolled in the above study.

Sjored et al [10] in his study found cryotherapy was the most effective therapy when compared to 40% Salicylic acid in the treatment of common warts. As compared to above study [39%] the percentage of complete clearance of warts in the present study [70%] was high. This could be attributed to less number of patients in the present study.

Cockayne et al [11] in his study,found Cryotherapy and 50% Salicylic acid are equally effective for clearing plantar warts. In our study Cryotherapy was more effective than 40% Salicylic acid in the treatment of warts.

The reason for the differences in effectiveness in the present study and above study is that in the above study they compared plantar warts only whereas in our study we compared both plantar and common warts. In the above study 50% Salicylic acid was used in the treatment of plantar warts as against 40% Salicylic acid in our study.

Bruggist et al [12] found Cryotherapy more effective when compared to 40% Salicylic acid. As compared to above study [39%] the percentage of complete clearance of warts in the present study [70%] is more.

40% Salicylic acid

In the present study, out of 30 patients in which 40% salicylic acid was utilized, there was complete clearance in only 5 patients. In 20 patients (66.6%) there was no response, 2 (6.66%) patients had partial clearance and in 3 patients (10%) there was recurrence. Haribhakti et al [13] found 40% salicylic acid applied daily was useful in a few cases of warts and have also mentioned them to be more useful when combined with other agents. Dhar et al [14] in his study of 100 patients of warts over hands and feet, found complete clearance in 82.1% on hands, 46.7% of palmar warts, 54.5% on feet, 84.2% of plantar warts and 57.1% of warts on hands and feet. Overall success rate was 70% with 16.5% salicylic acid and 16.5% lactic acid in flexible collodion.

As compared to the above study, percentage of "complete clearance" in the present study was very less (16.6%). This could be attributed to additional lactic acid and flexible collodion in above study. Flexible collodion increases the efficacy of salicylic acid . Chang et al[15] in his study of 302 viral wart patients, subjected 13 patients to 17% topical salicylic acid. Out of 13 patients, 5 patients used it in combination with liquid nitrogen. Three of the patients showed complete clearance, 2 patients showed partial clearance, no response in two patients and 6 were defaulters. As compared to the present study, percentage of complete clearance in above study was high. This could be attributed to less number of patients, 2 patients applied liquid nitrogen, salicylic acid and increased number of defaulters for follow-up in above study. Bourke et al[16] in his study of 225 patients with warts found 43%, 37% and 26% with complete clearance who were treated every 1,2 and 3 weeks respectively in combination with liquid nitrogen, 16.5% salicylic acid and 16.5% lactic acid in flexible collodion. As compared to the above study percentage of complete clearance is less in the present study. This could be attributed to additive effect of liquid nitrogen, flexible collodion, lactic acid in the above study and less number of patients enrolled in present study. Berth Jones et al [17] in his study on 300 viral wart patients,found 57% and 62% had complete clearance from single freeze and double freeze technique respectively. Wart paint (16.5% salicylic acid, 16.5% lactic acid in flexible collodion was applied daily by subjects. As compared to above study, percentage of complete clearance in the present study is less. This could be attributed to liquid nitrogen, 16.5% lactic acid flexible collodion and more number of subjects enrolled in the above study.

Demerits in our study

1. Less number of patients,
2. Warts on hands and feet are subjected to Salicylic acid.

Conclusion

Warts are common and there are many modalities of treatment. In the present study percentage of complete clearance is high in Cryosurgery as compared to 40% Salicylic acid. As per statistics Cryosurgery treatment is superior to 40% Salicylic acid treatment (P=0.0000).

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