

Original Article

EFFICACY OF 80% PHENOL VERSUS CRYOTHERAPY IN THE TREATMENT OF WARTS ON HANDS AND FEET

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Objective: To compare the efficacies of 80% phenol and cryotherapy in the treatment of warts on hands and feet.

Methods: This Study was performed on 280 patients with common warts presenting to Dermatology Department, Services Hospital, Lahore. Patients were randomly divided into two groups; 140 were treated with cryotherapy and 140 patients with 80% Phenol, on every 3 weeks for a maximum of 9 weeks (3 sessions).

Results: Complete clearance of warts after six weeks was observed in 68% (95 cases) of patients treated with cryotherapy, and 74% (103 cases) of patients treated by phenol group.

Conclusions: Study data indicates that 80% Phenol and Cryotherapy both are effective treatments for common warts on hands and feet but phenol has more efficacy than cryotherapy.

Keywords: Cryotherapy, Human Papilloma Virus, Liquid nitrogen, Phenol, warts

Introduction

Viral Warts are benign epidermal proliferations caused by Human Papilloma Virus (HPV) affecting 9.5% of children and young adults, commonly under 16 years of age.¹ They are broadly classified into cutaneous, genital and laryngeal warts and may affect any area of skin although the hands and feet are by far the commonest sites. Though not life threatening in immunocompetent patients, they cause discomfort, embarrassment & pain.²

Human papilloma Virus (HPV) is a double stranded DNA virus that infects squamous epithelial cells via areas of trauma, use of communal shower, meat handling and immunosuppression causing a variety of clinical diseases ranging from plantar or common warts to genital warts to neoplasia of cervix.³

Treatment options include Cryotherapy, Cauterization, Surgery, Laser, Homeopathy, Topical and Intralesional preparations.⁴ Cryotherapy with Liquid nitrogen is most widely used method for treating warts. It cures warts by freezing and destroying the tissue containing wart without causing pain or discomfort to the patient.⁵ 80% Phenol used topically over warts effectively removes them by its caustic action.⁶

Clinical experience with use of Phenol to treat common warts is limited with few reports published in literature so far. From these reports, the efficacy of 80% phenol is 82.6 % as compared to cryotherapy which is 70% after 6 weeks of treatment in warts of hands (study conducted in department of dermatology, Mashad university of

medical sciences, Iran).⁷

In our clinical practice, we are using cryotherapy for the treatment of warts.

Aim of this study was to introduce phenol as a treatment in warts on Hands and Feet as it leads to rapid clearance of lesions in shorter duration of time. By determining the efficacy of phenol in treatment of warts it will become more easy to treat warts even in outpatient department and especially in children who may be afraid of cryotherapy or in patients with raynaud's phenomenon in which cryotherapy may be contraindicated. Magnitudes produced by this study could be used as a basis for recommending a more widespread use of phenol in treatment of viral warts.

Methods

Study was conducted at Department of Dermatology, Services Hospital, Lahore, for 6 months, after approval from hospital ethical committee. It was a Single blind randomized controlled clinical interventional trial of six months on 280 cases of palmoplantar warts which were divided into Group A and group B using random number table. Patient of both genders and all ages were included. Warts on hands and feet of any type like common, filiform or mosaic with a duration of less than 6 months were chosen for treatment.

Immunosuppressed patients, patients of chronic skin diseases like eczema or autoimmune disease, diabetes mellitus, cold sensitivity & skin allergies, pregnancy and lactation were not included. Periungual warts and warts which were infected were also excluded from the study. Informed consent and photographs were

5-10 seconds followed by thawing and repeating again). Therapy was given at 3 weekly intervals with maximum of 3 sessions. Patients were monitored on each visit for disappearance of wart lesion.

In group B, 80% phenol was applied on dry wart lesion with the help of cotton bud and repeated at 3 weeks intervals with maximum of 3 sessions. Patients in whom warts were no longer visible or felt along with reestablishment of skin color and lines at 9 weeks were classified as cured. If wart lesion disappeared they were further followed for 6 weeks to note any recurrence.

Data was analyzed through SPSS Version 15. Test of significance, chi-square was used to compare the efficacy in both groups, p-value equal to or less than 0.05 was considered significant.

Results

In this study, 280 patients of warts were divided into two groups, each having 140 patients. While considering the descriptive statistics for age of whole sample size of study, we have come to know that there was a long range of age variation, the youngest patient included was of 5 years of age, while the other extreme was 70 years. Mean age was 20.98 with standard deviation of 11.56 while in group B, the mean age was 21.99 with standard deviation of 11.19. (Fig-1) Gender analysis was done in terms of frequencies and percentages. In group A, 85 (65%) were female and 55 (39%) were

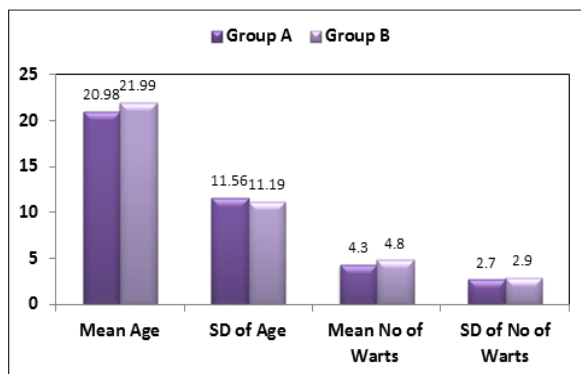


Fig-1: Age and number of warts.

Table-1: Gender distribution in patients of warts n = 280.

Gender	Frequency	Percentage
Female	103	36.78%
Male	177	63.21%
Total	280	100%

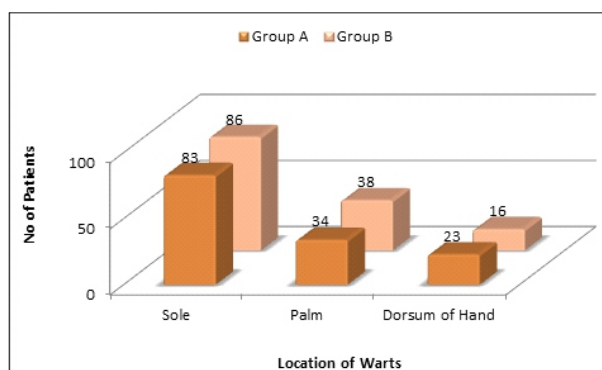


Fig-2: Distribution according to site of wart.

male while in group B, there were 92 (66%) female patients and 48 (34%) male patients (table 1). In total, there were more females in the study as compared to males. The response according to operational definition, in both groups at the end of study was evaluated in terms of frequencies and percentages. In group A, 95 (68%) patients were cured at 12 weeks while 31 (22%) patients were not cured. 2 out of 140 patients refused further participation and were lost to follow up. Recurrence of wart lesion at 12 weeks was noted in 12 patients in group A. In group B, 103 (74%) patients showed cure while 27 (21%) patients were not cured (Table 2).

Table-2: Efficacy of treatment.

	Group A	Group B	Group A	Group B
Cured with no recurrence	95(68%)	103(74%)	68%	74%
Not cured	31(22%)	27(21%)	22%	21%
Cured with recurrence	12	03	9%	2%
Left during study	02	03	1%	3%

The two responses were compared by chi-Square test. The p-value was assumed to be $p = 0.05$. The degree of freedom was $df = (2-1)(4-1) = 3$. The tabulated Chi Square value for $p = 0.05$ and $df = 3$ was, Chi square = 7.815. The calculated value for the two groups based on their response was, Chi square = 6.76, this is less than the tabulated value. Therefore, we can say that there is statistically significant difference in two treatment responses, so the treatment B is more effective than A.

In six patients treated by cryotherapy group, post-inflammatory hypopigmentation was seen and seven patients of phenol group complained of mild burning on application of phenol on finger warts.

Discussion

Warts are common dermatological problem especially in young children and adults.¹ They occur generally on hands, feet and anogenital area in sexually active individuals.⁸ A vast range of medications have been used for the treatment of common warts which include keratolytics such as salicylic acid, silver nitrate, imiquimod and oral zinc sulfates.⁹ Other forms of treatment like bleomycin, 5-Fluorouracil, Laser, Photodynamic therapy are also in use in special conditions.^{10,11} Cryotherapy is one of the ablative methods and has similar efficacy as salicylic acid. This technique is simple and easy to use. If used correctly with proper freeze time and technique, it produces good results in treatment of palmoplantar warts.⁵ Phenol is a protoplasmic agent. Diluted solution of phenol acts as local anesthetic on nerve endings and relieves itching.⁶ It has been used for treating ingrown toe nail, molluscum contagiosum and warts. It is readily available, simple to use and has limited side effects. In our study age range was from 5 years to 71 years with a mean of 21.48 and S. D of 11.37. Age range was from 5 years to 71 years. These figures show that almost any age can get warts. The mean age and standard deviation in group A (cryotherapy) and group B (phenol) were as follows: Group A : Mean \pm SD 20.98 \pm 11.5, Group B : Mean \pm SD 21.99 \pm 11.19.

In both groups, mean age was nearly equal to each other and was also comparable to whole sample. In the previous study conducted by Banihashemi in Mashhad University of medical Sciences, Iran,⁷ sample size was quiet small being 60, while in our study sample size was quiet large (280). The mean age and standard deviation in cryotherapy group was 15.63 \pm 3.4 and in phenol groups was 16.42 \pm 6.2 in that study.

Warts are not apparently sex dependent disease, male and female have equal chance to acquire them. In our study, out of 280 patients, 104 (37.1%) were males and 176 (62.85%) were females (**Table 1**). Banihashemi in his study showed that 30 patients in group A, 17 were female and 13 were male, while in group B, 8 were female 15 were male.⁷ In a study by Sjoerd¹², 52% were female patients and 48% were male patients. Both these studies show that there was female predominance in them. Of 280 participants, 169 were stratified into those having plantar warts, 62 into palmar warts and 39 into those having warts on Dorsum of hands (**Fig-1**). Response to treatment was evaluated by random

number table and in terms of frequencies and percentages. Patients in group A when evaluated for efficacy following results were seen: 95 patients (68%) were cured while 31 patients (22%) were not cured. In group B, following results were seen: 103 patients (74%) were cured while 27 (21%) were not cured. In study conducted by Banihashemi⁷, 19 patients (70%) showed cure with cryotherapy and 21 patients (82%) with phenol (**Fig-3**). When we compare these results with our study, we can say that efficacy at the end of treatment in both studies were close to each other. Both of studies show that 80% phenol is more effective than cryotherapy in the treatment of cutaneous warts.

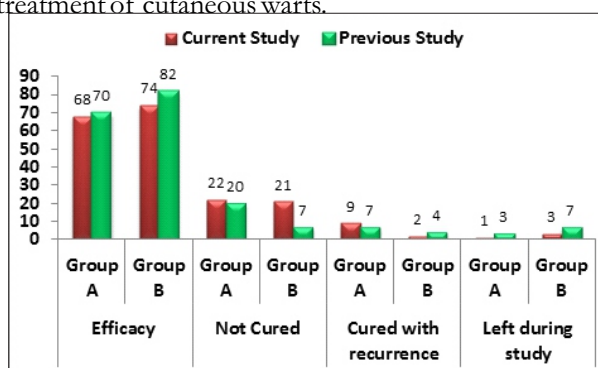


Fig-3: Comparison of results with previous study.

We compared the efficacy of both treatments by applying chi square test, by taking p value = 0.05 and we found that phenol showed statistically significant difference in efficacy as compared to cryotherapy.

Conclusion

From this study we conclude that 80% phenol is effective in the treatment of warts on hands and feet and it has more efficacy in treating cutaneous warts than cryotherapy. It is an effective and cheap alternative for treating cutaneous warts due to more convenient application and limited side effects. However additional studies are required at larger scale to further evaluate its efficacy in the treatment of cutaneous warts.

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Guidelines

SHC & ME & P & SHC DEPARTMENTS JOIN HANDS TO HANDLE HOSPITAL WASTE

Hafiz Shahid Latif

The two components of health department signed a contract to utilize each other's incinerator facilities for waste disposal here on 9th February 2018. A list of incineration facilities available under both departments in Punjab was also issued. It was decided that hospitals under SHC&ME department will continue to incinerate their own waste in addition to the waste forwarded by other SHC&ME and P&SHC institutes at no cost basis. These hospitals are now expected to operate their incinerators round the clock and the competent authority will ensure provision of necessary resources including manpower and maintenance funding. The hospitals have also offered their

services to the nearby private hospitals, clinics and laboratories to get their infectious/ hazardous waste incinerated in the concerned hospital with incineration facility. In case the capacity of an incinerator is exceeded, the remaining waste will be forwarded for incineration to the nearest facility on reciprocal basis without any charges. If a hospital desires to engage a contractor working with P&SHC for incineration, it must be in accordance with the PPRA rules. Direct contracting is not allowed, the 26th February notification announced.

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