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EFFICACY OF 10% KOH IN PALMOPLANTAR WARTS

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Abstract:

Objective; *To determine the efficacy of topical 10% Potassium Hyrdroxide (KOH) in the treatment of palmo-plantar wart.*

Methodology: *This was a descriptive cases series study conducted at Mayo hospital & Sir Ganga Ram Hospital, Lahore and Aziz Bhatti Shaheed Teaching Hospital, Gujrat during June 2018 to December 2018. In this study total 100 cases of palmo plantar warts were enrolled. These cases were treated with 10% topical KOH which was applied daily at night and these cases were followed at 01,02,03 and 04 weeks at which the final follow up was assessed. The efficacy was labeled when there was complete resolution of all the wart lesions.*

Results: *In this study there were total 100 cases out of which 55 (55%) were females and 45 (45%) males. The mean age was 8.32±1.54 years and mean duration of symptoms was 4.34±0.87 months. The efficacy was seen in 84 (84%) of cases. The efficacy was almost equal in palm and plantar warts (p= 0.85). The efficacy was significantly better in cases that had single lesion where it was seen in 20 (90.91%) out of 22 cases with p= 0.04. There was no difference in terms of duration of lesion as well with p= 0.17.*

Conclusion; *10% KOH is very efficacious in cases of palmo plantar warts and the results are significantly better seen in cases of single lesion as compared to multiple warts.*

Key words. *Warts, HPV, 10% KOH.*

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INTRODUCTION:

Warts are one of the most reported cases at Dermatology outpatient departments. It poses a great concern not only in terms of cosmetic reasons but also their association with other medical conditions. These are usually benign conditions and involve the skin surface and mucosa i.e. both the oral and genital. Human papilloma virus (HPV) is the causative agent. HPV has more than 150 types. There is predilection of some HPV strains towards particular anatomic sites; however, it is not the definitive rule. The warts can be divided into flat warts, palmo-plantar warts, common warts, genital warts, filiform warts, and peri-ungal warts. [1]

Warts have different clinical symptoms depending upon the site of involvement. These included itching, rash, cosmetic disfigurement etc. Different therapies are used for this purpose. However, there are concerns regarding these modalities in terms of their success, cost and side effect profile. Type of wart, their location, symptoms and the patient's desires and cooperation are the important confounder regarding its treatment. [2]

The data has revealed that even spontaneous regression can occur in more than 60% of warts within first two years and 80% at 5 years. [3] However, starting a therapy in such cases can not only fasten the healing process but can also be curative for smaller lesions.

Therapies used in the past for the treatment of warts include, salicylic acid, imiquimod, duct tape, liquid nitrogen, cidofovir, cantharidin, bi and tri chloracetic acid (TCA) tretinion, potassium hydroxide (KOH) and cauterization etc. [4-6] Salicylic acid was most widely used in the past and was considered as most successful in past but the data was controversial. [7-8]

OBJECTIVE:

To determine the efficacy of topical 10% Potassium Hyrdroxide (KOH) in the treatment of palmo-plantar wart.

Study Design: Descriptive cases series

Settings: Mayo hospital & Sir Ganga Ram Hospital, Lahore and Aziz Bhatti Shaheed Teaching Hospital, Gujrat

Duration of Study

June 2018 to December 2018

Sample technique:

Non probability consecutive sampling

Sample selection:

Inclusion Criteria:

1. Both genders
2. Age 5-15 years
3. Warts at palmar or plantar surface of at least 5mm in size or more lasting for more than 1 month (other than filiform).

Exclusion Criteria:

1. Warts other than palmo-plantar site
2. Warts of filiform type
3. The cases on any treatment for wart within last 1 month
4. The cases with end stage renal, hepatic disease
5. The cases that hypersensitivity to KOH

MATERIAL AND METHODS:

In this descriptive cases series study, total 100 cases were enrolled as per inclusion criteria. Detailed socio demographic data was taken and the other clinical information like site of warts, number of warts and duration of symptoms was also recorded. The cases were treated with 10% topical KOH which was applied daily at night by the patients or their attendants and these cases were followed at 01,02,03 and 04 weeks at Dermatology department of SZH, RYK. The final follow up was assessed at the end of 04 weeks. The efficacy was labeled as yes when there was complete resolution of all the wart lesions.

Statistical analysis:

The data was analyzed with the help of SPSS version 21. Quantitative variables were presented in terms of mean ± SD (Standard Deviation). Frequency & percentages were calculated for categorical data. Effect modifiers were controlled through stratification of site of lesion, duration of symptoms and number of lesions to see the effect on outcome variable. Post stratification chi-square test was applied taking p-value $\leq$ 0.05 as significant.

RESULTS:

In this study there were total 100 cases out of which 55 (55%) were females and 45 (45%) males. The mean age was 8.32±1.54 years. The mean duration of symptoms was 4.34±0.87 months. There were 62 (62%) cases with palmar warts and 38 (38%) had plantar wart. There were 22 (22%) cases that had single lesion and 78 (78%) had multiple lesions (table 1). The efficacy was seen in 84 (84%) of cases as in figure 1. The efficacy was almost equal in palm and plantar warts with slight better results in palmar warts (p= 0.85) as in table 2. The efficacy was significantly better in cases that had single lesion where it was seen in 20 (90.91%) out of 22 cases with p= 0.04 as in table 3. There was no difference in terms of duration of lesion as well; however it was better in cases that had lesion lasting for less than 2 months with p= 0.17 as in table 4.

Table 01 : Study variables n= 100

VARIABLES	Numbers	%
Male	55	55
Female	45	45
Single lesion	22	22
Multiple lesions	78	78
Palmar warts	68	68
Plantar warts	32	32

TABLE NO. 02: EFFICACY OF 10%KOH WITH RESPECT TO SITE OF LESION n= 100

Site of lesion	EFFICACY		Total
	Yes	No	
Palm	53 (85.48%)	9 (14.52%)	62 (100%)
Plantar	31 (81.58%)	7 (18.42%)	38 (100%)
Total	**84 (84%)**	**16 (16%)**	**100 (100%)**

p= 0.85

TABLE NO. 03: EFFICACY OF 10%KOH WITH RESPECT TO NUMBER OF LESION n= 100

Number of lesions	EFFICACY		Total
	Yes	No	
Single	20 (90.91%)	2 (9.09%)	22 (100%)
Multiple	64 (82.05%)	14 (17.95%)	78 (100%)
Total	**84 (84%)**	**16 (16%)**	**100 (100%)**

P= 0.04

TABLE NO. 04: EFFICACY OF 10%KOH WITH RESPECT TO DURATION OF LESIONS n= 100

Duration of lesions	EFFICACY		Total
	Yes	No	
2 months	37 (88.10%)	5 (11.90%)	42 (100%)
> 2 months	47 (81.03%)	11 (18.97%)	58 (100%)
Total	**84 (84%)**	**16 (16%)**	**100 (100%)**

p= 0.17

DISCUSSION:

Human papillomaviruses (HPV) causes infection and the lesions more at the epithelial surfaces such as skin and mucosal surfaces. The most common clinical manifestations of HPV are warts. HPV type 1,3 and 10 most commonly affect the palms and the soles of the feet while 6 and 10 are more associated with mucosal surfaces. These warts are mostly seen in young and adolescent. Some occupations such as handlers of meat, poultry, and fish also show association with this.

The efficacy of 10% KOH in palmo plantar warts was seen in 84 (84%) out of 100 cases in the present study. Similar results were seen in a study by Al-Hamdi KI et al that found total success rate of around 96.8%. [9] They further stratified their results and it was seen that the complete response was seen in 82.1% of cases which was similar to our result of 84% as we used the same cut off value to label cure as complete resolution of the lesions. The partial response in their study was seen in 14.7% of cases. [9]

In another study by Seo SH et al, they compared imiquimod and 10% KOH for palmo plantar warts and it was seen that the efficacy with 10% KOH was seen in 77% of cases as compared to 57% with imiquimod. [10] Even lower results were also observed by KOH preparation in such lesions. In a study done by Metkar et al, the efficacy with 10% KOH for complete resolution was seen in inly 8 (42.1%) of cases in their study. [11]

In the present study, the efficacy was significantly better in cases that had single lesion where it was seen in 20 (90.91%) out of 22 cases with p= 0.04. This was also proved by other studies as well that the efficacy was found better in pauci and solitary lesions as compared to multiple. This can be explained by the fact of the early course of disease and better orientation in treatment leading to good success rate. [12-13] In this study, the palmar warts responded better than the plantar one but the difference was not statistically significant The reason for better outcome in palms as compared to plantar surfaces can be explained by the involvement of the site as the cases have more concerns about the care of hands due to cosmetic and other reasons as compared to plantar surfaces. Moreover the BMI was not assessed in the present study and due to pressure over the souls can also lead to decrease in blood supply and can also hamper the healing process and hence decreased efficacy at plantar surfaces.

CONCLUSION:

10% KOH is very efficacious in cases of palmo plantar warts and the results are significantly better seen in cases of single lesion as compared to multiple warts.

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