ORIGINAL ARTICLE

To Assess the Efficacy of Oral Zinc Sulphate in Treatment of Plantar Warts

HABIBAH AYUB[1], LAMEES MEHMOOD MALIK[2], TARIQ RASHEED[3]
[1]*Dermatologist, Jinnah Hospital, Lahore*
[2]*Associate Prof. Dermatology1Department, Jinnah Hospital, Lahore*
[3]*Professor Dermatology1Department, Jinnah Hospital, Lahore*
Correspondence to: Dr. Habibah Ayub, Dermatologist, Jinnah Hospital, Lahore

ABSTRACT

Aim: To assess the efficacy of oral zinc sulphate in treatment of plantar warts.
Study design: Descriptive case series
Setting: Dermatology department unit 1, Jinnah Hospital, Lahore
Duration: From 26-6-2016 to 26-12-2016
Methodology: 150 subjects were selected which fullfil the selection criteria. History of warts was taken. Subjects were given oral zinc sulphate (5mg/kg/day) prepared from pharmacy 12 hourly in two divided doses after meal for a period of 6 weeks. After 6 weeks duration, effect of medicine was noted and entered in the Performa.
Results: Out of 150 cases, 105 (70%) subjects were between 18-30 years of age while 45(30%) patients were between 31-45 years of age. Mean±SD value was calculated as 28.7± 4.9 years. Regarding gender, 80(53.3%) subjects were males and 70(46.7%) were females. Effect of oral Zinc Sulphate in plantar warts treatment was 52.7%.
Conclusion: Oral zinc sulphate for plantar warts has a good rate of efficacy.
Keywords: Plantar warts, oral zinc sulphate, efficacy

INTRODUCTION

Plantar wart appears as small papule that progresses to attain shape of sharply defined rounded lesion with rough surface. Plantar warts are present in 7-10% of population and all ages are involved and most common are children and young adults.[1] As far as treatment is concerned, up till now there is no specific anti-viral treatment of warts. But in most cases, there is spontaneous recovery and this may take longer duration i.e. months to years. Non-specific therapy of warts was cryotherapy, electro cautery, laser and occlusion. Topical treatment includes cantharidin, salicylic acid, trichloroacetic acid, podophyllin, 5-fluorouracil and tretinion. Systemic remedies i.e. oral zinc sulphate, cimetidine and retinoid are preferably used for treating plantar warts[2].

Zinc sulphate, an immune modulator, acts on immune system thus stimulating the defence mechanism. Zinc sulphate is also used in the treatment of many dermatological and non-dermatological disorders. Dermatological disorders in which zinc sulphate has been used are inflammatory acne, alopecia areata, cutaneous leishmaniasis, uremic pruritus and acrodermatitis enteropethica. Pathogenesis of plantar warts shows deficiency of Zinc.[3] In Korea, 50% patients showed complete recovery of plantar warts by the use of oral zinc sulphate with two months of treatment.[4] In another study, 50 patients used oral zinc sulphate with a dose of 5 mg/kg/day in two divided doses. Duration was 6 weeks and 75.6% response was noted[5].

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Fig 1: Moderate Plantar Wart

Fig. 2: Giant Plantar Wart

METHODOLOGY

This descriptive case series was conducted in Dermatology Department, Jinnah Hospital, Lahore from 26-6-2016 to 26-12-2016. 150 cases were calculated with 95% confidence level, 7% margin of error and taking expected percentage of efficacy as 75.6% (in terms of >50% reduction in number of warts from baseline). Non-probability sampling technique was used.
Inclusion Criteria: Subjects of either gender with age 18-45 years, having plantar warts, patients who have not taken any treatment over last 3 months and warts of <5 or more were included.
Exclusion Criteria: Patients having immunodeficiency state or connective tissue disorder and pregnant/ lactating women were excluded.
Data Collection: After approval from ethical committee, 150 patients were given oral zinc sulphate (5 mg/kg/day) 12 hourly with two divided doses after meal for aduration of 6 weeks and data was analyzed through SPSS 20 version.

RESULTS

The detail of results is given in tables 1, 2, 3, 4, and 5.

Table 1: Age distribution

Age (years)	n	%age
18-30	105	70
31-45	45	30
Total	150	100
Mean±SD	28.7±4.9	

Table 2: Efficacy of oral zinc sulphate in plantar warts treatment

Efficacy	n	%age
Yes	79	52.7
No	71	47.3
Total	150	100

Table 3: Efficacy With Regards To Age

Age (years)	Efficacy	
	Yes	No
18-30	57	48
31-45	22	23

P value 0.54

Table 4: Efficacy With Regards To Gender

Gender	Efficacy	
	Yes	No
Male	44	36
Female	35	35

P value 0.54

Table 5: Efficacy with regards to duration of disease

Duration (months)	Efficacy	
	Yes	No
1-3	51	32
>3	28	39

P value 0.01

DISCUSSION

In this study, out of 150 cases, 105 (70%) subjects were between 18-30 years of age while 45(30%) patients were between 31-45 years of age, mean±SD value was calculated as 28.7±4.9 years, 80(53.3%) subjects were male and 70(46.7%) were females. Effectiveness of oral Zinc Sulphate in plantar warts remedy was seen in 79(52.7%) subjects. This study is consistent with a study performed in Korea and showed 50% patients with complete remission i.e. disappearing warts, with oral zinc sulphate for two months treatment[4].

In another study in India, oral zinc sulphate was given in fifty patients with two divided doses for a duration of six weeks. Complete response was seen in 75.6% cases[8.] This study is not consistent with our findings. One study by Al-Gurair et al[6] assessed complete response of plantar warts in 20 (86.9%) subjects for a duration of two months therapy. 14 (60.9%) subjects observed complete disappearance of plantar warts for a treatment of one month. 3(13.3%) patients had no response. In placebo group, no response was seen. So it was concluded that zinc sulphate shows highly effective response in plantar warts and is a safer treatment.

A study by Stefani et al, there are toxic effects with zinc sulfate treatment i.e. nausea, vomiting and diarrhea. These side effects were decreased when total dose was divided into three daily doses and also taking the dose after meal.[7]

Another study[8] at Lahore showed the effectiveness of oral zinc sulphate and topical application of salicylic acid(16.7%)and lactic acid(16.7%) combination in plantar warts treatment. In group A with oral zinc sulphate, the treatment was for two months with next 4 months follow up. In group B, the topical treatment was also continued for 2 months and follow up >4 months after the treatment. In group A, result showed 41(82%) subjects with best response while 9(18%) subjects had poor response. In group B, result showed 31 (62%) cases with best response, two (4%) had a good response and 17 (34%) with poor response. Thus oral zinc sulphate is more effective significantly ($p<0.05$) than topical application with salicylic and lactic acid combination in plantar warts treatment.

CONCLUSION

Oral zinc sulphate shows a good response in plantar warts.

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