Efficacy of intra-lesional 5% 5- fluorouracil in the treatment of palmo-plantar warts

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Abstract

Background: Warts are benign tumors caused by Human papilloma virus. Different treatment regimens have been tried but the one with shorter duration of treatment and better efficacy is always needed.

Objective: To determine the efficacy of intra-lesional 5% 5-fluorouracil (5-FU) in treatment of palmo-plantar warts.

Methodology: It was a comparative study conducted at Out Patient Department of Dermatology, Sheikh Zayed Hospital, Rahim Yar Khan from May to November 2016. Fifty cases between the ages of 10-50 years with palmo-plantar warts were included in this study. Detailed demographic and clinical data was collected. These cases were given first dose of intra lesional injection of 5- FU in the dose of 50 mg/ml using insulin syringe. These cases were followed up on OPD basis at weeks 02, 04, 06, 08, 10 and 12 and were assessed for the presence, size and number of lesions. The cases with complete absence of all the lesions were labeled as cured. Final outcome was seen at 12 weeks and the results were recorded.

Results: Efficacy of 5 FU was seen in 44 (88%) of cases. Efficacy in male was 87.10% and female was 89.48% patients. Better efficacy was seen in patients having age more than 25 years i.e. 91.67%. Plantar warts, number of lesions more than three and duration of lesions more than two months had better cure rates of 92.60%, 90.90% and 90.62% respectively. In this study, 32 (64%) cases out of 50 were cured at 4 weeks of therapy.

Conclusion: Intralesional 5% 5-FU is an effective treatment modality for palmo-plantar warts.

Key words: Palmo-plantar warts, 5-fluorouracil, cure.

Introduction

Warts are the benign tumors which can occur over skin and mucosal surfaces[1]. These are caused by human papilloma virus (HPV). There are more than 100 types of HPVdetected that can affect the skin in various ways.[1]

The warts can involve different parts of the body and are classified accordingly. They can be labelled as common warts, palmo-plantar warts, genital warts, peri-ungual warts, flat warts and filiform warts.[2] The clinical presentation depends upon various factors including the mode, site and extent of contact and also the immunological status of the host. Some of them have shown genetic association with its involvement.[3]

The main theme involved in the cure of the warts is the destruction of the virus-infected cells. Multiple therapies have been tried in the past regarding their efficacy, safety, and cost effectiveness depending upon the types of warts, their location, degree of symptoms, patients' cooperation and desires and the underlying immune status.[4] Some modalities have shown good effects; and to a few others, warts have shown a great degree of resistance.[5,6] Spontaneous regression occurs in as many as 65% of warts within two years and in 80% at 5 year.[3] So, observation is another option for all the patients. New warts may also appear while others are regressing; that's why most patients desire treatment.

Different therapies used for the treatment of warts include salicylic acid, liquid nitrogen, 5-FU, imiquimod, cidofovir, duct tape, tretinoin, trichloroacetic acid (TCA), potassium hydroxide (KOH), and cauterization etc.[4-7] Among all, salicylic acid was thought to be most successful in previous studies; though few contradict it.[8-9] 5-FU is an anti-metabolite which inhibits the synthesis of DNA and RNA and results in inhibition of proliferation of the dividing cells. In the past it has shown variable efficacy in the treatment of warts involving different body areas.[10]

This study was conducted to determine the efficacy of intralesional 5% 5-fluorouracil in the treatment of palmoplantar warts.

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Methodology

It was a comparative study conducted at Out Patient Department of Dermatology, Sheikh Zayed Hospital, Rahim Yar Khan from May to November 2016. Consecutive sampling was done.

Inclusion criteria:

1. Both genders.
2. Age between10 to 50 years.
3. Palmo-plantar warts diagnosed clinically by finding grayish cauliflower like hyperkeratotic papules and plaques having rough and irregular surface.
4. The size of lesion was at least 0.5 cm or more in their longest diameter.
5. Number of lesions between 01 to 10.
6. Lesion/s present for less than 6 months duration.

Exclusion criteria:

1. Lesions more than 10
2. Lesions at sites other than palms and soles.
3. Cases taking any treatment for warts within last one month.
4. Cases with co- morbid conditions like end stage renal or liver disease.
5. Cases with hypersensitivity to 5-FU.
6. Cases with pregnancy and lactation.

Fifty cases fulfilling the inclusion criteria were included in this study. The detailed demographic data like gender, age, and weight of the patients was taken and other data like site, size, duration and number of lesions was also recorded. These cases underwent intra lesional injection of 5- FU in the dose of 50 mg/ml using insulin syringe. Warts having size up to 01cm were injected 0.1 ml of drug intralesionly.

Warts having size more than 01 cm were injected same amount of drug on points 01 cm apart. These cases were then followed up on OPD basis at weeks 02, 04, 06, 08, 10 and 12 and were assessed for the presence or absence, size and number of lesions. The cases with complete absence of all the lesions were labelled as cured. Final outcome was seen at 12 weeks and the results were recorded. The data was analyzed on SPSS version 21.0. Ethical approval was sought from Institutional Review Board.

Results

There were 50 cases in this study out of which, 28 (56%) were males and 22 (44%) females. The mean age was 21.17±2.15 years. Mean weight of the patients was 36.44±5.72 kg whereas mean number of lesions was 3.44±0.33. Mean size and duration of lesions were 1.54±0.72 cm and 3.45±0.36 months respectively. Efficacy of 5- FU was seen in 44 (88%) out of 50 cases (Figure I).

Figure I: Efficacy of 5 fluorouracil n= 50

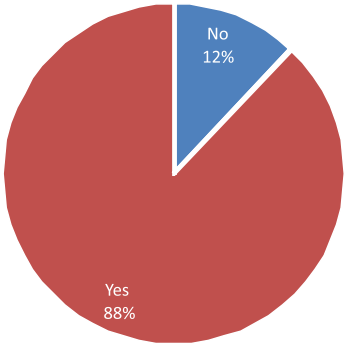
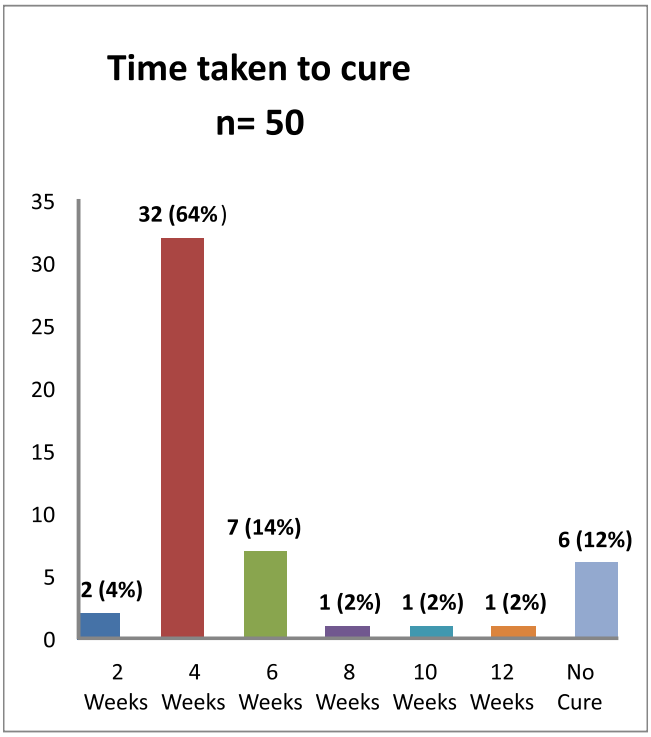


Figure II: Time taken to cure (n= 50)



Efficacy was almost equal in males versus females i.e. 24 (85.71%) and 20 (90.91%) respectively with p= 1.02. Better efficacy was seen in patients having

age more than 25 years i.e. 12 (91.67%) out of 13 cases (p= 0.98). Plantar warts had better cure i.e. 92.60% as compared to palmar warts with cure rate of 82.60%. Better efficacy was seen in those patients having number of lesions more than three (90%) and in those where duration of lesions was more than 2 months (90%). Efficacy was 91.66% versus 86.64% in warts having size > 2cm as compared to warts having size 02cm or less respectively (p= 0.81) as in table I. Maximum cases 32 (64%) out of 50 were cured at 4 weeks of therapy (Figure II).

Table I: Efficacy with respect to different variables (n= 50)

Variables		Efficacy		P value
		Yes	No	
Site of warts	Plantar	25(92.60%)	02(7.40%)	0.45
	Palmar	19(82.60%)	04(17.40%)	
Number of warts	3 or less	26(86.67%)	04(13.33%)	0.91
	More than 3	18(90%)	02(10%)	
Size of warts	2 cm or less	33(86.84%)	05(13.16%)	0.81
	> 2 cm	11(91.66%)	01(8.34%)	
Duration of warts	2 months or less	17(85%)	03(15%)	0.85
	> 2months	27(90%)	03(10%)	

Discussion

Cutaneous warts especially at the palm or plantar surfaces are quite concerning and end up in frustration for the patients due to either their discomfort or cosmetic disgigurement and the better and quick management of such cases is always in demand.

In this study the efficacy of 5-FU was seen in 44 (88%) of cases. Previous studies done in this regard had shown mixed results. In a study, done by Kenawi MZ et al[11]the success rate was about 65% with 5-FU and by Sri et al[12]success seen in 70% of cases, while in another study by Soni et al it was seen in less than 50%.[13]

The plantar warts had better cure where 25 (92.6%) out of 27 cases were cured as compared to palmar one with 19 (82.60%) out of 23 cases. This was also observed by the studies done by Youn et al that also had better results in plantar warts.[14] The reason of higher success rates can be increased paring (removal of excessive keratin) at plantar surfaces by the patients because of the lesser degree of pain as compared to the palmar surfaces, before the application of the treatment.

The efficacy was also better seen with number of lesion more than 3 and size more than 2 cm; although these differences were not statistically significant. There was also another interesting finding that those who had lesion more than 2 months also had better results. All these can fit into one hypothesis that those who had more lesions and more symptoms were more conscious about their care and helped more in terms of its proper scaling than those who had shorter duration of symptoms and minor lesions. Similar was also observed by the study done by Brugginket al[9] that also found more efficacies with longer durations. However ,the cut off values of their study was 6 months. However, these differences were not found statistically significant in their study as well.

Maximum cases 34 (64%) out of 50 were cured at 4 weeks of therapy. This was similar to study done by Kenawi MZ et al[11] that found maximum cure affecting 71.43% of the cases at third dose. Similar results were also observed in other studies as well but they used shorter intervals of one week or less between the injections.[15-16]

Conclusion

Intralesional 5% 5-fluorouracil is an efficacious treatment modality for the treatment of palmo-plantar warts.

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All the authors gave final approval for publication and agreed to be accountable for all aspect of work.

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References

1. De Villiers EM, Fauquet C, Broker TR, Bernard HU, Zur-Husen H. Classification of papillomoa virus. Virology. 2004;324(1):17-27.
2. Kirnbauer R, Lenz P. Human papillomaviruses. In: Bolognia JL, Jorizzo JL, Schaffer JV, editors. Dermatology . 3rd ed. Philadelphia: Mosby Elsevier; 2012.P.634.
3. Sterling JC, Gibbs S, Hussain HS, Mustapa MF, Handfield-Jones SE. British association of dermatologists' guidelines for the management of cutaneous warts. Br J Dermatol. 2014;171(4):696-712.
4. Kuwabara AM, Rainer BM, Basdag H, Cohen BA. Children with warts: a retrospective study in an outpatient setting. PediatrDermatol. 2015;32(5):679-83.
5. Kwok CS, Holland R, Gibbs S. Efficacy of topical treatments for cutaneous warts: a meta-analysis and pooled analysis of randomized controlled trials. Br J Dermatol. 2011;165:233-34.
6. Grussendorf-Conen EI, Jacobs S. Efficacy of imiquimod 5% cream in the treatment of recalcitrant warts in children. PediatrDermatol. 2002;19:263.
7. Field S, Irvine AD, Kirby B. The treatment of viral warts with topical cidofovir 1%: our experience of seven paediatric patients. Br J Dermatol 2009;160:223.
8. Coskey RJ. Treatment of plantar warts in children with a salicylic acid-podophyllin-cantharidin product. PediatrDermatol 1984;2:71.
9. Bruggink SC, Gussekloo J, Berger MY. Cryotherapy with liquid nitrogen versus topical salicylic acid application for cutaneous warts in primary care: randomized controlled trial. Can Med Assoc J. 2010;182:1624-26.
10. Salk RS, Grogan KA, Chang TJ. Topical 5% 5-fluorouracil cream in the treatment of plantar warts: a prospective, randomized, and controlled clinical study. J Drugs Dermatol. 2006;5(5):418-24.
11. Kenawi MZ, Sherine H. EL-Rahman A, Osama H, Salam A. Efficacy of intralesional 5-Fluorouracil versus BCG vaccine in the treatment of warts. Egypt J DermAndrol. 2012;32(1);3-14.
12. Sri JC, Dubina MI, Kao GF, Rady PL, Tyring SK, Gaspari AA. Generalized verrucosis: a review of the associated diseases, evaluation, and treatments. J Am AcadDermatol. 2012;66(2):292-311.
13. Soni P, Khandelwal K, Aara N, Ghiya BC, Mehta RD, Bumb RA. Efficacy of Intralesional bleomycin in palmo-plantar and periungual warts. J CutanAesthet Surg. 2011;4(3): 188-91.
14. Youn SH, Kwon IH, Park EJ, Kim KH, Kim KJ. A two-week interval is better than a three-week interval for reducing the recurrence rate of hand-foot viral warts after cryotherapy: a retrospective review of 560 hand-foot viral warts patients. Ann Dermatol. 2011;23(1):53-60.
15. Lipke MM. An armamentarium of wart treatments. Clin Med and Res. 2006;4(4):273-93.
16. Yazdanfar A, Farshchian M, Fereydoonnejad M. Treatment of common warts with an intralesional mixture of 5- fluorouracil, lidocaine, and epinephrine: a prospective placebo-controlled, double- blind randomized trial. Dermatol Surg. 2008;34:656–59.

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