

Efficacy and safety of intralesional 5-fluorouracil in treatment of warts

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Abstract

Objective To determine the efficacy and safety to intralesional 5-fluorouracil in the treatment of common warts.

Methods This interventional study was conducted in the Department of Dermatology, PGMI/AMC/Lahore General Hospital Lahore from October, 2016 to July, 2017. 40 patients with warts were treated with intralesional 5-FU (0.1ml/cm² of 5-FU, 50mg/ml), at the base of each wart. Injections were repeated every two weeks, maximum for six injections. Patients followed fortnightly upto 2 months after last injection for efficacy and safety.

Results Overall 30 (75%) patients (of all types of warts) showed excellent results (maximum six injections) and remained clear on follow-up after 2 months of last treatment session. Localized irritation and pain were the major side effects encountered in all patients.

Conclusion Intralesional 5-FU is an effective and safe treatment for treatment of common, plantar and genital warts.

Key words

Wart, 5-fluorouracil, intralesional.

Introduction

Warts (verrucae) are benign proliferations of skin and mucosa caused by infection with human papilloma virus.¹ Clinical appearance of warts is variable and depends to some extent on the type of HPV involved and the site of infection.² The commonly used treatment modalities for warts involve destruction of the epidermis infected with virus. These include topical preparation like salicylic acid,³ glutaraldehyde⁴ and retinoic acid,⁵ electrocoagulation⁶ and cryotherapy,⁷ and CO₂ laser, have also been used.

Pain related to treatment, side effects and cost can be determining factors in choosing a therapy.⁹ 5-Fluorouracil (FU) is an antimetabolite that suppresses cell division and causes cell cycle arrest.¹⁰ Topical 5-FU is used in the treatment of warts but is not very effective.¹¹ Intralesional injection of 5-FU permits higher drug concentrations throughout the lesion and previous study has shown its effectiveness in treatment of warts.¹²

Methods

This interventional study was conducted between October 2016 and July 2017 in Department of Dermatology, Lahore General Hospital, Lahore. A written informed consent was taken from all the patients and ethical clearance was obtained from appropriate

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authorities of the Hospital. Patients of either sex, aged ≥ 12 years and clinically diagnosed to have warts on any body site were included in the study. Patients with more than 5 warts were excluded. Similarly, pregnant women, lactating mothers, patients with vascular disease or cardiovascular, renal and liver problem, were also excluded.

Patient's warts were injected intralesionally with 0.1ml/cm² of 5-FU (50mg/ml), at the base of each wart, after cleansing the area with isopropyl alcohol. Injections were repeated every two weeks, maximum for six injections. Patients followed fortnightly upto 2 months after last injection. Results were evaluated on the basis of clinical improvement. Efficacy was categorized into four grades as excellent (75-100% improvement), good (50-74% improvement), satisfactory (25-49% improvement) and poor <25% improvement.

Results

Forty-four patients were enrolled in the study, out of which 4 left study due to noncompliance and personal problems. Forty patients continued trial with minimum of 2 sessions with total clearance of warts and minimum of 6 sessions. the age of patient ranged between 20 and 60 years, mean age 39.55±11.26 years; 16 were males and 24 were females. Regarding type and sites of warts, there were 21 patients with plantar warts (9 male, 12 female), 13 had warts on hands (5 male and 8 female) and 6 with gentle warts (2 male, 4 female), **Table 1**.

Out of total 40 patients who completed study, 30 (75%) had excellent response i.e. 75-100% improvement, 3 achieved 100% improvement after 2nd injection, 12 patients after 3rd injection, 10 patient achieved 100% improvement after 4th injection and 5 patients after 5th injection (**Table 2**).

5 Patients achieved good response (50-74%) after 6 injections. 3 Patients showed satisfactory response 25-49% improvement and 2 patients with poor response less than 25% improvement. After 2 months of follow-up after last injection, none of the patient had recurrence or increase in size of lesion. Genital warts encountered in 6 patients 2 males, 4 females. 3 patients had excellent response (75-100%), 2 had good response (50-75%), after total of 6 injections and one showed satisfactory response.

Overall 30 (75%) patients showed excellent results and remained clear on follow-up after 2 months of last treatment session. Improvement was statistically signification ($P < 0.05$). No clinically significant systemic side effects were observed in our study except localized irritation and pain.

Discussion

Warts at palmoplantar aspect and genital area

Table 1 Sites of involvement in the study population (n=40).

| Site of involvement | Male (n=16) | Female (n=24) |
|---------------------|-------------|---------------|
| Genital warts | 2 | 4 |
| Hands | 5 | 8 |
| Feet | 7 | 12 |

Table 2 Efficacy of 5-fluorouracil treatment on follow up visits (n=40).

| Response on Follow up visits | No of Pts | After 1 st Inj | After 2 nd Inj | After 3 rd Inj | After 4 th Inj | After 5 th Inj | After 6 th Inj |
|-----------------------------------|-----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Excellent (75-100% improvement) | 30 | | 3 | 12 | 10 | 5 | |
| Good (50-74% improvement) | 5 | | | | | | 5 |
| Satisfactory (25-49% improvement) | 3 | | | | | | 3 |
| Poor (<25% improvement) | 2 | | | | | | 2 |

are difficult to treat and challenging and the search for effective treatment modalities has been going on since a long time. 5-FU is an antimetabolite that suppresses cell division and causes cell cycle arrest.¹² As a treatment for warts, topical 5-FU is primarily of historical interest, with most of the trials carried out in the 1970s and 1980s. Evidence provided by these trails was limited by the heterogeneity of the methods and designs. Overall this treatment was not considered to be very effective.¹³ Intralesional injection of 5-FU has several advantages over topical cream. The mean administered dose of intralesional 5-FU for the treatment of warts is usually in the range of 2-6mg, that is, less than 1/150th of the amount of systemic therapy. Therefore the systemic adverse effects of 5-FU are eliminated.

Study by Yazdanfar *et al.*¹⁴ showed a response rate of approximately 82.3% (64.7% excellent complete response, 17.6% partial response). Swinehart *et al.*¹³ used intralesional 5-FU successfully for the treatment of condylomata acuminata. In the present study result are comparable with 70% having excellent response. Iscimen *et al.*¹² carried out a study on use of intralesional 5-FU in treatment of common plantar warts in 2004, showed 70% complete clearance. The adverse effects observed in some cases were erythema, and edema with none had necrosis, scarring.

Conclusion

Intralesional 5-fluorouracil is highly effective, safe and cheap alternative in the treatment of warts with significantly good response in genital warts also.

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