



Comparative Study of 5% Imiquimod and 20% Podophyllin in Treatment of Genital Wart

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ABSTRACT

Genital wart cases are increasing in number due to lack of education, unprotected sex and higher rate of recurrence. Objectives: This is high time to analyze various treatments their efficacy and side effects. We are doing study to know the efficacy as well as side effect of podophyllin and imiquimod in treatment of genital wart. Study design, setting &

participants: 60 patients fulfilling the inclusion and exclusion criteria were taken up for the study with attached proforma for risk factors was provided. Patients were segregated in to two groups and a longitudinal follow up study was done. Outcomes: In imiquimod (group A), total number of cured patients which had 100% clearance was 11 (39.28%) while total uncured patients which had less than 100% clearance were 17 (60.72%). In Group B (podophyllin), total number of cured patients which had 100% clearance was 17 (65.38%) while total uncured patients which had less than 100% clearance were 9 (34.62%). Conclusion: Our results conclude that for treatment of genital warts, Podophyllin is more efficacious than Imiquimod in terms of clearance but has higher rates of relapse and side effects.

KEYWORDS : Genital warts, Podophyllin, Imiquimod, Treatment of genital wart.

Introduction: More than 100 types of HPV have been discovered and the genome of more than 80 have been completely sequenced¹. The current classification system which is based on similarities in their genomic sequences, generally correlates with the categories used to describe HPV clinically:

Anogenital or mucosal
Nongenital cutaneous
Epidermodysplasia verruciformis (EV).

HPV types 6, 11, 30, 42, 43, 44, 45, 51, 52, 54 are mainly involved in pathogenesis of genital warts². The typical anogenital wart is soft, pink, elongated, and sometimes filiform or pedunculated. The lesions are multiple especially on moist surfaces. Large malodorous masses may form on vulval and perianal skin. This classical "acuminate" form constitutes about two-thirds of anogenital warts³. The genital warts have a high infectivity. The thinner mucosal surface is probably more susceptible to inoculation of virus than the thicker keratinized skin. Lesions are noted to be commoner at sites subjected to more coital friction in both sexes⁴.

Although the incidence of anogenital wart is far less as compared to other types of wart but they are more cumbersome to treat because of late presentation and poor compliance of patient and invasiveness of treatment leading to multiple complication. Therefore there is a need not only for better treatment modality but also more effective patient education.

In light of above facts the present study was undertaken to ascertain clinical efficacy as well as side effects of imiquimod cream and podophyllin lotion in treatment of genital warts⁵.

Aims and objectives - To compare the efficacy and side effect of 5% Imiquimod and 20% Podophyllin in treatment of Genital Warts.

MATERIAL AND METHOD

60 patients fulfilling the inclusion and exclusion criteria were taken up for the study. Patients were divided into two groups randomly Group-A & Group-B. Detail history of patient's age, sex, marital status, locality, education, profession, sexually activity, h/o sex exposure, source of exposure, homosexual or heterosexual, time interval in months between contact and appearance of wart were taken. Patients were segregated in both groups sequentially and a longitudinal follow up study was conducted. Diagnosis of wart was made after detailed clinical and histopathological examination.

Detailed examination of size of warts as well as site and percentage

surface area involvement of genitals was done under good illumination. Base line investigation: complete blood count, liver function test, renal function test, Elisa for HIV I & II and routine urine examination were done. In female patients pregnancy was ruled out by investigating urine beta HCG level and atleast two mode of contraceptions were used during the study.

Photographs were taken just before application and at each follow up. In group A imiquimod 5% cream was applied to the lesions with wooden tooth pick. Surrounding normal area was covered with petroleum jelly. The area was washed with mild soap and water next morning. Treatment was continued on alternate days for 6 weeks or up to the clearance of wart whichever was earlier. The application was taught to the patient and subsequently done by the patient. In group B normal surrounding area was covered with petroleum jelly and 20% Podophyllin solution was applied with a cotton bud over the warts. Maximum volume of Podophyllin solution to be applied was less than 0.5ml or 10 cm square per treatment session. Patients were advised to wash the area 4 hrs after application. Podophyllin was applied for 6 weeks or up to the clearance of wart whichever was earlier.

(a) Inclusion Criteria

- (I) All newly diagnosed cases (who had not taken any topical treatment in past 4 weeks) of genital warts.
- (II) Patients who were seronegative for the Human Immunodeficiency Virus.
- (III) Female patients who agreed to use effective birth control measures during the treatment.
- (IV) No history of immunosuppression or concomitant use of immunosuppressive medication.
- (V) Absence of any other local infection or erosion at the site of wart.

(b) Exclusion Criteria

- (I) Age <12 years.
- (II) Known hypersensitivity to the used treatment.
- (III) Pregnant or lactating mothers.
- (IV) Presence of co-infection of other STDS (genital ulcer, genital discharge).

Observations

After two weeks of treatment, in group-A out of 25 patients 10 patients (40%) had <50% decrease in size and surface area and 08 patients (32%) had >50% decrease in size and surface area and complete clearance is seen in 07 (28%). In group-B, out of 20 patients 05 patients (25%) had 50% decrease in size and surface area and 06 patients (30%) had >50% decrease in size and surface area and complete clearance is seen in 09 (45%).

After four weeks of treatment, in group-A out of 25 patients 10 patients (40%) had <50% decrease in size and surface area and 08 patients (32%) had >50% decrease in size and surface area and complete clearance is seen in 07 (28%). In group-B out of 20 patients 05 patients (25%) had 50% decrease in size and surface area and 06 patients (30%) had >50% decrease in size and surface area and complete clearance is seen in 09 (45%).

After six weeks in group-A out of 30 patients 20 patients (66.67%) had <50% decrease in size and surface area and 07 patients (23.33%) had >50% decrease in size and surface area and 100% clearance is seen in 03 (10%). In group-B out of 30 patients 14 patients (46.67%) had <50% decrease in size and surface area and 10 patients (33.33%) had >50% decrease in size and surface area and 100% clearance is seen in 06 (20%). (Table-1)

The significance of difference between efficacy of drugs was evaluated with chi square (χ^2) test. Immediate side effects were noted within in 24 hours of application and delayed side effects were noted after 1 week of application. Follow up was done after completion every one month interval for 3 months.

Results:

Table 1-(At completion of 6 weeks)

DECREASE IN SIZE AND SURFACE AREA INVOLVEMENT OF WART	GROUP-A (n=28)	GROUP-B (n=26)
<50% DECREASE IN SIZE AND SURFACE AREA	07 (25%)	04 (15.39%)
50-99% DECREASE IN SIZE AND SURFACE AREA	10 (35.72%)	05 (19.23%)
100% CLEARANCE	11 (39.28%)	17 (65.38%)

STATISTICAL ANALYSIS OF RESULTS

Table-2

Drugs	Cured	Uncured	Total	Cure rate
Imiquimod	11	17	28	39.29%
Podophyllin	17	09	26	65.38%
Total	28	26	54	—

Testing the NULL Hypothesis

since the observer value (3.86) was higher we conclude that NULL Hypothesis was false, Podophyllin is better treatment than Imiquimod in treatment of genital warts.

SIDE EFFECTS

In our study the most common immediate side effect was erythema followed by itching which were more common with podophyllin. Other immediate side effects were burning, edema, pain, erosion and necrosis. Systemic side effects observed were headache, diarrhoea and tingling. Headache was more common with podophyllin than imiquimod but diarrhoea was seen only in the former group. (Table-3)

Delayed side effects were hypopigmentation, hyperpigmentation, ulceration and scarring which were more frequent with podophyllin. This was concordant with Padhiar Bela B et al, 2006. (Table-4)

Table-3

IMMEDIATE SIDE EFFECTS

IMMEDIATE SIDE EFFECTS	GROUP-A (IMIQUIMOD)	GROUP-B (PODOPHYLLINE)
Erythema	15	18
Itching	13	15
Burning	06	08
Oedema	05	07
Pain	05	05
Erosion	06	07
Necrosis	02	06
Headache	02	04
Tingling	00	03
Diarrhoea	00	03

Table-4

DELAYED SIDE EFFECTS

DELAYED SIDE EFFECTS	GROUP-A	GROUP-B
Hypopigmentation	02	03
Hyperpigmentation	02	04
Ulceration	02	06
Scarring	02	06

DISCUSSION

Although there are many studies regarding the management of wart, very few have discussed imiquimod and podophyllin⁵. The two agents are easily available but their application must be supervised as complications are far more common when they are applied over genital area. Though recurrence is the main problem in any case of wart, this can be overcome by proper guidance and application of these agents⁷.

Clinical Practice: Proper counselling is needed to decrease the side-effects and recurrence of infection along with proper guidance for application of either imiquimod or podophyllin⁸.

Limitations

Although the present study was conducted using strict inclusion criteria, there are few limitations. Small sample size and a single sited study contained to a specific region limits the overall results to the rest of the Indian population. Lack of a placebo control group also limits the real observation about whole community.

Conclusion

Overall cure rate of Imiquimod was 39.29% and that of Podophyllin was 65.38%. Thus Podophyllin proved to be better treatment than Imiquimod in treatment of genital warts⁹. The side effects were more common in case of Podophyllin as compared to Imiquimod.

After 3 months of follow up, 27.27% had recurrence with imiquimod while 41.18% had recurrence after podophyllin applications.

Our results conclude that Podophyllin is more efficacious than Imiquimod in treatment but has higher relapse rate and side effects¹⁰. The author's experience in the treatment of genital warts suggests that no treatment provides satisfactory results in all patients. For this reason, we believe that combination of treatments is required for complete clearance of the warts with better results, minimizing adverse effects.

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