



Original Article

Evaluation of podophyllin and Trichloroacetic acid for the treatment of genital warts in Iraqi female patients

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ABSTRACT

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Background: human papillomavirus infections (genital warts) are the most frequent sexually transmitted viral infections. a wide range of treatment options is available with different efficacy.

Objective: To evaluate the efficacy of podophyllin, trichloroacetic acid (TCA) in the treatment of genital warts and side effects of them.

Subjects and methods: a total of sixty patients with genital warts were randomly selected, 30 in each group, in the Department of Dermatology, medical city for a Duration of 11 months from January 2009 to December 2009 treated with 35 % podophyllin in the tincture of benzoin or 50% TCA).Forty-eight patients were followed up for three months.

Results: warts cleared in 63% and 70% of the patients after treatment with podophyllin and TCA respectively within 3 months. Soreness happened in 6 patients with podophyllin and in 9 patients with TCA. small ulcers happened in 1 patient by podophyllin and 2 patients with TCA. pain was in 5 patients treated by podophyllin and in 6 patients treated by TCA. erythema was noticed in 10 patients treated by podophyllin and in 11 patients treated by TCA.

Conclusion: there was a higher clearance rate with TCA and earlier response. The occurrence of adverse reactions is little more with TCA.

Introduction

Anogenital warts (AGWs) are benign lesions on the epithelium of the genitalia, anus or perineum, due to human papillomavirus, Condylomata acuminata are the most common sexually transmitted viral diseases. These lesions are caused by infection with mucosal human papillomaviruses (HPVs). However, there is limited information on HPV strain distribution involved in the molecular pathogenesis of these lesions, (1) The overall (females and males) reported annual incidence of any AGWs (new and recurrent) ranged from 160 to 289 per 100,000, with a median of 194.5 per 100,000.

New AGW incidence rates among males ranged from 103 to 168 per 100,000 and among females from 76 to 191 per 100,000, with a median of 120.5 per 100,000 per annum. The reported incidence of recurrent AGWs was as high as 110 per 100,000 among females and 163 per 100,000 among males. Incidence peaked before 24 years of age in females and between 25 and 29 years of age among males. The overall prevalence of AGWs based on retrospective administrative databases or medical chart reviews or prospectively collected physician reports ranged from 0.13% to 0.56%, whereas it ranged from 0.2% to 5.1% based on genital examinations.(2)

Anogenital warts may have negative effects on patients' quality of life, (3) because of their cosmetic appearance, association with a sexually transmitted disease, symptoms, no cure, and social stigma. (4)

Various treatment like topical podophyllin, imiquimod, sinecatechins ointment and 5-fluorouracil and ablative modalities like trichloroacetic acid application, cryotherapy, electrosurgery, scissor excision, Co2 laser and systemic therapy like are used but clearance of lesions and recurrence is still a challenge. (5)

Podophyllin is an alcoholic plant extract from dried rhizomes of plants (6) and trichloroacetic acid is a topical destructive agent and causes coagulation of cellular proteins causing cell death. It is effective in treating any warts in the concentrations of 70%–80%. (7-9)

The incubation period between incident genital HPV infection and the appearance of warts is highly variable but has been found to be shorter in women (median 2.9 months) than men (median 11.0 months). (10,11)

The aim of this study to evaluate the efficacy of podophyllin, TCA in the treatment of genital warts and side effects of them.

Subjects and Methods

This is an interventional study for 60 female patients with genital warts attended the department of dermatology at Baghdad teaching hospital /medical city /Iraq from January 2014 to December 2014, who were chosen after examination and accepted participation in the study.

Inclusion criteria: all women with genital warts attending the department of dermatology were chosen, just 60 patients accept to participate in the study.

Exclusion criteria: Pregnant and nursing women, previous treatment for genital warts in the three months before their initial visit, and Patients who refuse to return for follow-up or with poor compliance. Randomly divided into two groups,30 in each group, with 35% podophyllin in the tincture of benzoin or 50% trichloroacetic acid (TCA). Eight patients didn't return for follow-up. Fifty –two patients were followed up for three months.

patients were offered an appointment weekly. Patients were divided randomly into 2 groups of 30 for each group. The first group received podophyllin 35% and the second group received TCA 50%. The therapy was stopped when the lesions clear or the end of 12 weeks of treatment. The endpoint is 12 weeks after first application. All clinical notes and side effects were registered at each visit. podophyllin was used in a concentration of 35% in tincture of benzoin, TCA 50% in spirit. Both solutions were prepared by one pharmacy. Podophyllin or TCA was used by a cotton-tipped swab once per week. First, the area was cleaned with normal saline then leaved to dry. The clear skin is protected with Vaseline or powder then washed after four hours, repeated every week; any side effects were registered. Follow up for 12 weeks.

Assessment of clearance of warts was clinical, clearance means no wart.

The analysis was done using excel 2016and spss 26.

Results

This study included 60 female patients with genital warts who attended the dermatology department. Informed consent, history and a medical examination were done. Eight patients did not return for follow-up.

The patients treated with podophyllin had clearance of (2)7% at 4 weeks while (3)10% in patients treated with TCA, (7)23 % of the patients treated with podophyllin had clearance at 8 weeks while (9) 30 % in patients treated with TCA and (19) 63 % of the patients treated with podophyllin had clearance at 12 weeks while (21) 70 % of the patients treated with TCA. table 1

Soreness happened in (6) 20% patients who were treated with podophyllin and in (9)30% patients by TCA. small ulcers happened in (1)3% patient by podophyllin and (2)7% patients with TCA. pain was in (5)17% patients treated by podophyllin and in (6)20% patients treated by TCA. erythema was noticed in (10)33% patients treated by podophyllin and in (11)37% patients treated by TCA. Table 2

Three patients discontinued the treatment due to side effects by podophyllin and TCA, which were mild to moderate.

No significant difference between the two groups by using t test and p value in spss 26:

Table 1: Results of using topical podophyllin versus TCA

Treatment	No Of patients	No defaulte d	No of clearance at4 wk	%	No of clearance at8 wk	%	No of clearance at12 wk	%
Podophyllin 35%	30	3	2	7	7	23	19	63
TCA 50%	30	5	3	10	9	30	21	70

Table 2: side effects of podophyllin and TCA

	Soreness	Ulcers	Pain	Erythema
Podophyllin	6(20%)	1(3%)	5(17%)	10(33%)
TCA	9 (30 %)	2(7%)	6(20%)	11(37%)

Discussion

Genital warts are wide world problem with many modalities of treatment with different efficacy and failure rate.

In the present study, two topical therapies studied to see the difference, (2)7% of the patients treated with podophyllin had clearance at 4 weeks while (3)10% treated with TCA,(7)23 % of the patients treated with podophyllin had clearance at 8 weeks while (9) 30 % treated with TCA and (19) 63 % of the patients treated with podophyllin had clearance at 12 weeks while (21)70 % of the patients treated with TCA, which means earlier clearance and higher response with TCA, but higher side effects like Soreness in (6)20% patients with podophyllin and(9)30% patients by TCA, small ulcers in(1)3% patient by podophyllin and (2)7% patients with TCA, pain in (5)17% patients by podophyllin and in (6)20% patients by TCA and erythema was noticed in (10)33% patients by podophyllin and in (11)37% patients by TCA.

In Gurralla study: 16.7% of the patients treated with podophyllin had clearance at 4 weeks and 50% at 8 weeks despite the difference in podophyllin concentration between this study and their study which is 25% dissolved in tincture of benzoin and there is no

standard concentration globally because of different preparation of podophyllin. (8)

Studies using TCA had clearance rates of 70-81 percent after 6 applications and recurrence rates of 36 % ,11,12 which is near present result.

Three patients leave the program due to side effects of podophyllin and TCA, which were mild to moderate, which is acceptable small number and similar to other studies.

If the patients couldn't visit clinic continuously, dosing schedule closely affects treatment choice.

In the present study; results recommend TCA superior to podophyllin, the opinion of Tseng's study and Cohen's study mention that TCA did not have increased fetal morbidity or mortality, or birth defects. TCA have the best safety profile in treating warts during pregnancy. (9)

Selection of a treatment type depend on the number, size, pregnancy, and location of the warts. There is weak evidence that one approach is better than another, but costs differ. (10)

In Iraq cost is important factor in selecting the mode of treatment. Both podophyllotoxin preparations are also more cost-effective than podophyllin. Podophyllotoxin solution is used for penile lesions; cream or gel formulations are easier to use for vaginal and anal lesions. (11)

Podophyllin and TCA are well-known, suitable price and widely used drugs in Iraq.

Difference of results in studies using podophyllin may be due to unavailable standard preparation. (12)

The use of podophyllin should be limited to cases where side effects are discounted and that compliance and medication cost are important. (13). The most appropriate priced drug for genital warts is podophyllin. (14), (15).

Conclusion

In the present study; results recommend TCA superior to podophyllin especially in pregnant women, as the opinion of Tseng's study and Cohen's study because TCA did not have increased fetal morbidity or mortality, or birth defects.

TCA have the best safety profile in treating warts during pregnancy.

There was a higher clearance rate with TCA and earlier response. The occurrence of adverse reactions is little in both groups but more with TCA.

It is a doctor-applied outpatient method.

In this type also patient compliance plays an important role as they should come to the clinic every week. Advantages are simple and cost-effective method, so selection of mode variable according to each case.

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Conflict of Interest

No conflict of interest

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