EVALUATION OF DIFFERENT METHODS FOR THE TREATMENT OF COMMON WARTS

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Abstract

Although there is a range of treatments for cutaneous warts, each method has advantages and disadvantages as there is no specific antiviral therapy for the human papilloma virus (HPV). This study, on 90 patients, evaluated the efficacy of cryotherapy, chemical cautery and electrocautery. Results suggest that cryotherapy is superior to chemical and electrocautery in having a higher rate of cures, fewer complications and not requiring local anesthesia.

Introduction

Human papilloma virus (HPV) infection of the skin affects approximately 10% of the population at any one time and it is especially common amongst the 10-15 year-old age group. The resulting warts may be unsightly and occasionally disabling [1].

Common warts are localized mainly on the hands and they are referred to as hand warts; however, these warts may appear elsewhere on the skin, differing in morphological and histological features, as well as by associated HPVs. The most common wart-inducing HPVs are types 2, 4 and 7, and less frequently type 57 [2].

With most warts spontaneous resolution can occur within two to three years. As early exposure to the wart virus may confer immunity it seems therefore a reasonable option to withhold treatment but, on the other hand, it has been suggested that by rapidly treating patients with warts the risk of spreading infection will be reduced [1,3].

The ideal method of treatment must be simple, quick and inexpensive with minimal side effects [1]. A wide range of chemical, physical and immunomodulatory treatments for cutaneous warts is available, each method having its advantages and drawbacks [4]. The diversity of such treatments is a reflection of the fact that there is as yet no specific antiviral therapy for HPV [1,5,6].

The aim of this study was to evaluate and compare the efficacy and the side effects cryotherapy, chemical cautery and electrocautery in the treatment of common warts.

Patients and Methods

Patients

The study involved 90 patients (47 males and 43 females) with common warts, their ages ranging from four to fifty years. All patients were subjected to thorough history taking and careful clinical examination. The warts were situated on the upper limbs in 49 patients, lower limbs in 27 patients and 14 patients had an unusual distribution on the head, neck and trunk. There was a family history of warts for 13 patients. The duration of infection varied from three months to three years. The patients were divided into three equal groups (30 patients in each) to be treated by cryotherapy, chemical cautery or electrical cautery.

Group A comprised seventeen males and 13 females with ages ranging from 4 to 47 years including 20 patients (65%) between 10-29 years. The mean number of warts was 6.13 + 5.63 with diameters 5-7mm in 14 patients and <5mm in 16 patients. Eighteen patients had a history of previous treatment which had failed.

Group B comprised eighteen males and 12 females with ages ranging from 7 to 50 years including 16 patients (53%) between 10-29 years. The mean number of warts was 1.73 + 1.17 with diameters >10mm in four patients, 7-10mm in five patients, 5-7mm in 10 patients and <5mm in 11 patients. Nine patients had a history of previous treatment which had failed.

Group C comprised twenty males and 18 females with ages ranging from 8 to 44 years including 20 patients (65%) between 10-29 years. The mean number of warts was 3.33 + 3.68. with diameters <5mm. Two patients had not improved with previous treatment with electrocautery.

Methods

Liquid nitrogen sprayed from a nitrospray instrument was used as the cryogen on group A patients. The spraying was in short bursts intended to keep the wart and 1-2 mm of surrounding healthy skin frozen for between ten and thirty seconds. A topical antibiotic (bacitracin ointment) was applied twice

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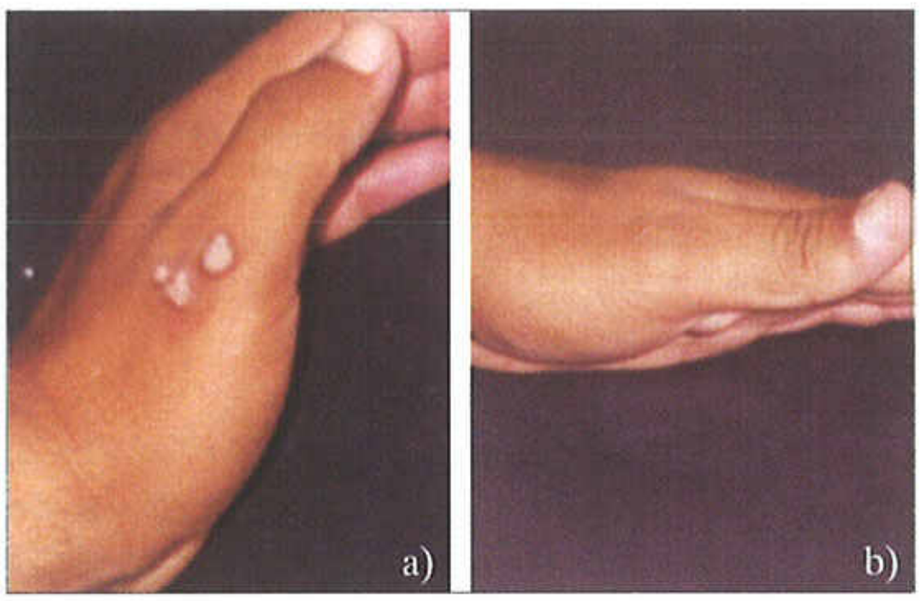

Fig. 1 - A big size common wart of Lt. Hand at the first metatarsophalengeal joint treated by chemical paint (a)Before treatment, (b) 12 week after treatment.

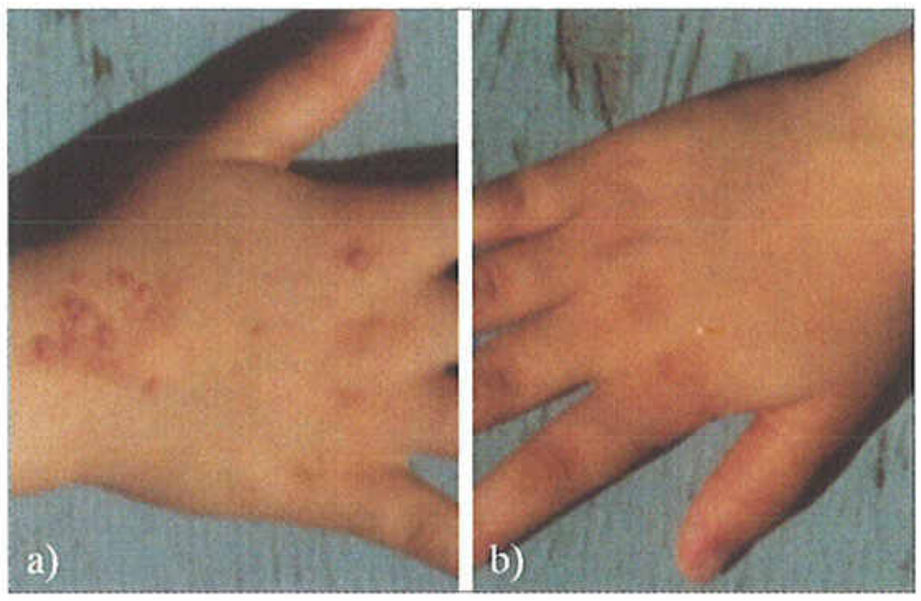

Fig. 2 - Multiple common warts on the dorsum of Rt. hand treated by cryotherapy (a) Before treatment, (b) 12 week after treatment.

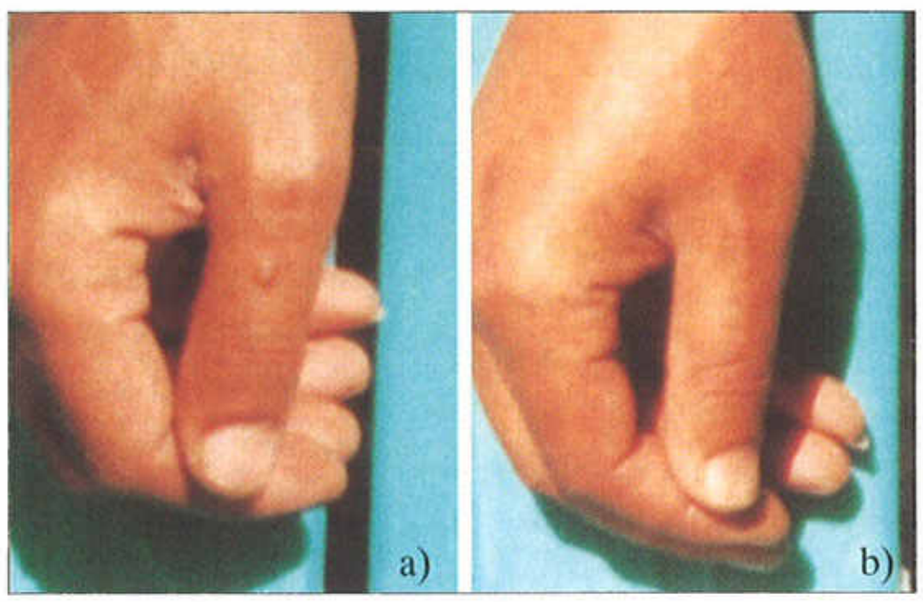

Fig. 3 - A common wart of diameter < 5mm on dorsum Rt. thumb treated by electrocautary and light curettage (a) Before treatment, (b) 12 week after treatment.

daily after treatment. The treatment was repeated weekly until either a cure was achieved or three sessions had been completed.

Pumice stone was used to abrade and remove the surface of warts of Group B patients before they were painted daily with a mixture of salicylic acid 16.7% and lactic acid 16.7% in a flexible collodion base. The patients were examined at intervals of three weeks for a maximum of three months.

Under subcutaneous local anesthesia the warts of group C patients were treated with electrocautery using a low current and gentle curettage to avoid excessive tissue damage and subsequent scarring. A topical antibiotic ointment was applied after treatment and the patients were requested to return each week for inspection.

Results

The results were assessed 12 weeks from the beginning of treatment. Three patients (two from group B and one from group C) were unable to complete the study. In the remaining 87 patients the cure rates were 73.3% in group A, 64.3% in group B and 65.5% in group C [Table 1] and were inversely proportional to the diameters of the warts [Table 2]. There were significantly fewer complications in the cryotherapy group (group A), the only complication being hypopigmentation [Table 3].

Discussion

None of the available methods for treatment of the common wart is specifically antiviral, which may help to explain, in part, why the failure rate has been

estimated to range from five to fifty per cent (7). In the wide range of treatments available, cryotherapy, chemical cautery, immunotherapy, surgery and lasers, each has advantages and drawbacks (8-11).

In 1988, Taylor reported that the cure rate was inversely proportional to the size of the wart. We achieved the highest cure rate with warts less than 5 mm in diameter and the success rate decreased as the size of the wart increased.

Our cure rates with electrocautery and chemical paints were similar (65.5% and 64.3% respectively) but a higher cure rate (73.3%) was achieved with cryotherapy as reported previously by other investigators [5,12,13].

Freezing causes intra- and extra-cellular formation of ice, leading to disruption of cell membranes and organelles, cell death and release of the papilloma virus from the damaged cells. It is possible that this then encourages an immune response to the virus [14,15].

Whatever method is used for treatment of common warts, there will be failures and recurrences. The best clinical guide to cure is the restoration of normal epidermal texture including the epidermal ridge pattern where appropriate [16].

We found that electrocautery caused scarring in 13.8% of our patients. Chemical paint applications had the disadvantage of needing prolonged application and they also produced scarring in 17.9% of patients. It is possible that the slightly higher incidence of scarring with paint was due to improper use by the patient. [12,17] On the other hand, cryosurgery was easy and quick, could be used without anesthesia and had a high cure rate with good cosmetic results. Hypopigmentation in 6.6% of the patients was the only side effect.

We suggest that cryotherapy is a useful method for the treatment of common warts. It has fewer complications, can be completed more quickly and has a better success rate compared to the use of topical acid preparations (chemical cautery). It is also superior to electrocautery because it can be used without anesthesia and again has fewer complications and a better success rate.

Table 1: Results of treatment in previously treated and untreated patients.

Group	No	Previous treatment								Non treated		Total	
		Chemical		Electrical		Cryo		Surgical					
		C	F	C	F	C	F	C	F	C	F	C	F
Cryo	30	10	4	2	1	-	-	1	-	9	3	22	8
Chemical	30	4	4	-	-	-	-	-	-	13	6	18	10
Electrical	30	-	-	1	1	-	-	-	-	18	9	19	10
Total	90	14	8	3	2	-	-	1	-	40	18	59	28

C= cured & F= failed

Table 2: Result of treatment in relation to diameter of warts.

Diameter	No.	Failed		Cured		Total
		No.	%	No.	%	
< 5 mm	57	20	36.4	35	63.6	55
5 - 7 mm	24	9	37.5	15	62.5	24
7 - 10 mm	5	2	40.0	3	60.0	5
> 10 mm	4	2	66.7	1	33.3	3
Total	90	33		54		`87

Table 3: Incidence of complications and failure in each method of treatment.

Group / Complication	Cryo		Chemical		Electrical		Total
	No.	%	No.	%	No.	%	
Scar	0	0	5	17.9	4	13.8	9
Hypopig	2	6.6	0	0.0	0	0.0	2
No complic	20	66.7	13	46.4	15	51.7	48
Failed	8	26.7	10	35.7	10	34.5	28
Total	30	100%	28	100%	29	100%	87

$X2 = 10.05$ & $P < 0.05$

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