

Original Research Article

A study on the efficacy of intralesional bleomycin for the treatment of periungual and palmoplantar warts

Neerja Puri*

Department of Dermatology, Punjab Health Systems Corporation, Punjab, India

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*Correspondence:

Dr. Neerja Puri,

E-mail: neerjaashu@rediffmail.com

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ABSTRACT

Background: Amongst the different modalities for the treatment of warts, not a single modality is fully effective. While treating warts, the possibility of spontaneous regression must also be kept in mind. The aim of treating warts is to induce long term immunity without recurrences. To study the efficacy and safety of intralesional bleomycin for the treatment of twenty patients with periungual and palmoplantar warts.

Methods: We conducted a prospective study of twenty patients of resistant periungual and palmoplantar warts between the age group of 15-50 years. Three injections of bleomycin were given at an interval of 2 weeks for a maximum of 3 injections (or less if the resolution occurred earlier).

Results: After three sessions, complete clearance of palmoplantar warts was 71.42% and that of periungual warts was 90.90%. lesions were seen in 82% patients and incomplete resolution was seen in 15% patients. Bleomycin has antibacterial, antiviral and cytotoxic activity. Commonest side effect after bleomycin injection was pain seen in 40% (8) patients followed by pigmentary change and Raynauds phenomenon seen in 5% (1) patient each.

Conclusions: Bleomycin is an effective and promising treatment of recalcitrant warts especially in palmoplantar and periungual.

Keywords: Bleomycin, Palmoplantar, Periungual, Warts, Modalities, Intralesional

INTRODUCTION

There are many modalities for the treatment of periungual and palmoplantar warts including electrocautery, cryosurgery and chemical cautery.^{1,2} The problems with all these modalities are the higher chances of recurrence.³ Bleomycin is used for the treatment of refractory warts. It has antibacterial, antiviral and cytotoxic activity. It causes inhibition of DNA synthesis.⁴ Bleomycin can bind with DNA and cause elimination of purine and pyrimidine bases. The main side effect of bleomycin injection is severe pain after injection, Raynauds phenomenon and pigmentary changes.^{5,6} If the required dosage is exceeded, cyanosis and gangrene of fingers can occur. The other side effects of intralesional bleomycin

included onychodystrophy, cyanosis and gangrene of the finger. To study the efficacy and safety of intralesional bleomycin for the treatment of twenty patients with periungual and palmoplantar warts.

METHODS

We conducted a prospective study of twenty patients of resistant periungual and palmoplantar warts between the age group of 15-50 years at district hospital Ferozepur from June 2013 to 2014. Written informed consent of all the patients was taken for the study. Prior approval of hospital ethical committee was taken before the start of the study. Routine investigations were done in all the patients including hemogram, liver function tests, kidney

function tests and X-ray chest. Three injections of bleomycin were given at an interval of 2 weeks for a maximum of 3 injections (or less if the resolution occurred earlier). After 2 weeks of bleomycin injection, an eschar developed at the site which was pared and subsequent injections were given. Follow up of the patients was done every month after the third dose till 6 months. 1 ml of bleomycin 1 mg/ml along with 1 ml of 2% lignocaine (both bleomycin and lignocaine in equal quantities) was injected at the base of the lesions after cleaning with spirit. The total amount of injection depended on the size of the warts - warts less 10 mm size were injected 0.5 ml of bleomycin and warts greater than 0.5 ml were injected with 1 ml of bleomycin but maximum volume injected in one sitting did not exceed 2 ml. The injection was given carefully avoiding any extravasation of the drugs. After injection, blanching of the wart surface occurred, indicating proper treatment. In thicker warts, the paring of the warts was done before injecting bleomycin. If the warts persisted after third injection, the treatment was considered a failure. The sessions were repeated at an interval of two weeks for a maximum number of three sessions. Photographic evaluation was done at each visit. The data was analysed using paired t-test.

Inclusion criteria

All patients with refractory warts with duration more than six months were included in our study.

Exclusion criteria

The following patients were excluded from our study: pregnant patients, patients with history of Raynauds phenomenon and patients having diabetes or hypertension.

RESULTS

The data was collected, tabulated and the results were analysed statistically. Regarding the age distribution of patients, maximum warts were seen in 8 (40%) patients in the age group of 31-40 years followed by 7 (35%) patients in the age group of 21-30 years, followed by 2 (10%) patients each in the age group between 10-20 years and 41-50 years. Only 1 (5%) patient was in the age group 51-60 years. The 20 patients had 50 warts total. Out of the 50 warts, there were total 28 palmoplantar warts and 22 periungual warts. 50% (10) patients had duration of warts more than 1 year, 40% (8) patients had duration of warts between 6 months and 1 year, 10% (2) patients had duration of warts less than 6 months. After three sessions, complete clearance of palmoplantar warts was 71.42% (Figure 1a and b) and that of periungual warts was 90.90% (Figure 2a and b).

Table 1: Table showing age distribution of patients.

S. no.	Age distribution	No. of patients	Percentage (%)
1	10 - 20	2	10
2	21 - 30	7	35
3	31 - 40	8	40
4	41 - 50	2	10
5	51 - 60	1	5
6	Total	20	100

Table 2: Table showing duration of warts.

S. no.	Duration	No. of patients	Percentage (%)
1	6 months	2	10
2	6 months - 1 year	8	40
3	1 year	10	50

Table 3: Table showing clearance of warts after treatment.

S. no.	Site of warts	No of warts cleared	Percentage of warts cleared (%)
1	Palms and soles	28/28	71.42
2	Periungual	20/22	90.90
3	Total	50	100

Table 4: Table showing side effects after bleomycin injection.

S. no.	Side effect	No. of patients	Percentage (%)
1	Pain	8	40
2	Pigmentary change	1	5
3	Raynauds phenomenon	1	5



Figure 1: (a and b) Pre and post treatment photograph of a 20 years old male with palmar wart after 3 sessions of bleomycin.

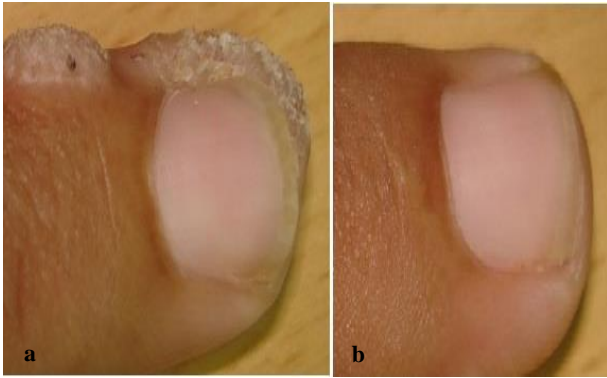


Figure 2: (a and b) Pre and post treatment photograph of a 25 years old male with periungual wart after 3 sessions of bleomycin.

DISCUSSION

There were 12 males and 8 females and male: female was 1.5:1. Bleomycin has antibacterial, antiviral and cytotoxic activity. Commonest side effect after bleomycin injection was pain seen in 40% (8) patients followed by pigmentary change and Raynauds phenomenon seen in 5% (1) patient each. Intralesional bleomycin is effective in the treatment of warts with cure rates from 63-100%. Bleomycin causes inhibition of viral replication and also inhibits DNA synthesis. There is a theoretic possibility of induction of skin cancer with bleomycin, but that occur with higher doses. In our study very low dose of bleomycin was used which was much below the toxic dose.

Intralesional bleomycin is not FDA approved for the treatment of warts. Bleomycin is used in chemotherapy and in high dosed can cause pulmonary fibrosis. But bleomycin in low doses of 1 mg m/ml causes no systemic side effects.⁷ The patients who have a short duration of infection have a high rate of warts clearance.⁸⁻¹⁰ An immune response is usually essential for clearance. Immunocompromised individuals rarely show wart clearance.

In a double-blind placebo-controlled study conducted by Shumer et al, 155 warts were treated with intralesional bleomycin and 55 warts with saline as control. It showed 60% cure rates for plantar warts and 95% cure rates for periungual warts.¹¹

In another study by Olson, resolution of plantar warts was seen in 18 out of 25 patients (72%) with bleomycin.¹² In another study by Shelly et al, a multiple puncture technique using bifurcated vaccination needle was used to introduce bleomycin and a success rate of 92% was seen.¹³ In another study by Mizuno et al, it was seen that addition of lignocaine enhanced the cytotoxicity of bleomycin.¹⁴ No adverse local or systemic reactions were noted in the group of patients treated with bleomycin plus lidocaine 2% .

CONCLUSION

To conclude, bleomycin is an effective and promising treatment of recalcitrant warts. Intralesional bleomycin injection was significantly safer and effective, with better patient acceptance in treating warts, particularly in palmo-plantar and periungual regions.

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Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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