

Analysis of effectiveness of 0.2% ciprofloxacin intralesional therapy in cutaneous leishmaniasis – a preliminary report

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Introduction

Cutaneous leishmaniasis is prevalent in southern and northeast of Sri Lanka. It is transmitted through insect vector, female sandfly. It is parasitic infection transmitted to human and exists in 3 clinical forms, namely cutaneous which is the commonest form, mucocutaneous, and visceral leishmaniasis.

Established most effective and widely used treatment modality includes sodium stibogluconate. When there is lack of availability of sodium stibogluconate, necessity of an alternative treatment modality becomes very important. That sort of practical background led to try 0.2% ciprofloxacin intralesional therapy in cutaneous leishmania as an alternative therapy; while working at DGH Hambantota; but there were only very few studies available in online search for references.

Ciprofloxacin is a broad spectrum antibiotic of the fluoroquinolone class. It is active against some gram positive and gram negative bacteria. It is effective against intracellular pathogens such as *Brucella* and *Legionella* spp, where it inhibits the enzyme Type II Topoisomerase (DNA gyrase) and Topoisomerase IV necessary to separate bacterial DNA, thereby inhibiting cell division.

Ciprofloxacin was also found to be active against some protozoa including *L. Donovani*.

Objective of the study

To assess efficacy and side effects of 0.2% ciprofloxacin intralesional therapy in cutaneous leishmaniasis.

Method

There were no previous studies done with this therapy in Sri Lanka. There were limited number of studies published online worldwide as well for the references.

Non randomised prospective analysis was carried out in order to see the clinical response with 0.2% ciprofloxacin intralesional therapy in a group of newly diagnosed patients with cutaneous leishmaniasis presented to the Skin Clinic at the DGH Hambantota during September to November 2019. Slit skin smear was done to confirm the diagnosis.

A total of 56 patients included for the study group. Weekly treatment was given intralesionally as 1ml per 1cm diameter of the lesion. Response was assessed clinically and photographically weekly up to 10 weeks.

Number of weekly treatment sessions needed for clinical clearances was documented.

The same 0.2% ciprofloxacin solution used for intravenous therapy was used intralesionally.

Inclusion criteria

1. Patients having 1 to 3 number of lesions.
2. Patients above 12 yrs.

Exclusion criteria

1. Pregnancy.
2. Patients below 12 yrs.
3. Patients with multiple lesions.

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Results

No. of weeks for clinical clearance	No. of Patients cleared	Percentage cleared
3 weeks	7	12.06%
5 weeks	15	26.7%
7 weeks	22	39.2%
10 weeks	12	31.4%

Before



After



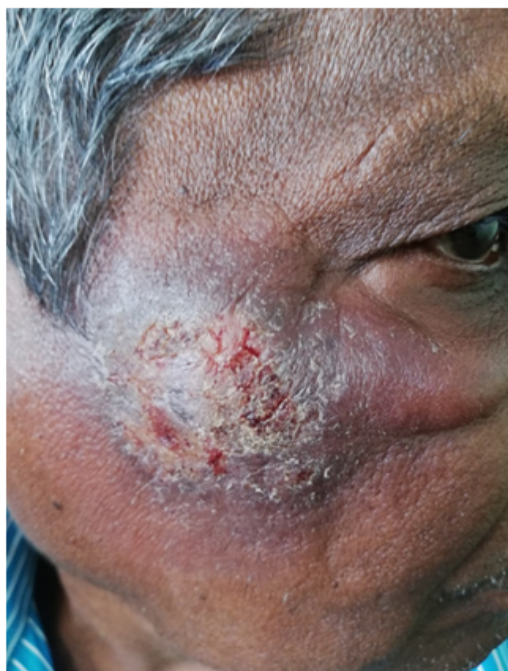
Before



After



Before



After



Before



After



Total no. of pts – 56

No. of pts cleared – 51 at 10 weeks

Clinically responded – 91.7%

No. poorly responded – 5 patients

Poorly responded – 8.3%

Side effects observed

There were no significant side effects observed in patients of the study group. The only side effect seen was local swelling at the site of injection but without associated itching or redness or any epidermal reaction. Local swelling could be due to amount of solution injected as it was not associated with itching or any redness or epidermal reaction. Severe adverse effects were not observed in the study group. Therefore, it can be considered as a safe alternative therapy in treating cutaneous leishmaniasis.

Conclusion

Intralesional 0.2% ciprofloxacin therapy in cutaneous leishmaniasis is a effective alternative therapy. It helped to clear cutaneous leishmaniasis in patients; especially in the absence of sodium stibogluconate or in patients poorly responding to other therapies

like IL metraniclazole therapy or in patients with allergy to sodium stibogluconate.

Majority of patients tolerated it without any side effect. It can be good alternative therapy in treating cutaneous leishmaniasis especially as it is freely available in state hospital set ups in Sri Lanka. When comparing with sodium stibogluconate; 0.2% ciprofloxacin therapy is cost effective in a developing country like Sri Lanka.

References

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