

Ultraviolet A/Riboflavin Collagen Cross-Linking for Treatment of Moderate Bacterial Corneal Ulcer

December 2-3,2016

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Introduction

- Bacterial ulcerative keratitis activates proteolytic enzymes.
- Cross linking of the cornea increases its resistance to enzymatic degradation

Material and Method

- Prospective randomized interventional study
- 32 patients with moderate bacterial corneal ulcer.
- 2-6 millimeters in size

Material and Method

- 8 mm-diameter zone of abrasio
- 0.1% hypo-osmolaric riboflavin every 3 minutes for 30 minutes

Material and Method

- Postop follow-ups at one day, seven days, and fourteen days

Results

- **Time to healing:**

- CXL group: 17.2 ± 4.1 days

- Only one patient required amniotic membrane transplantation (AMT) after 25 days.

Control group: 24.7 ± 5.5 days,

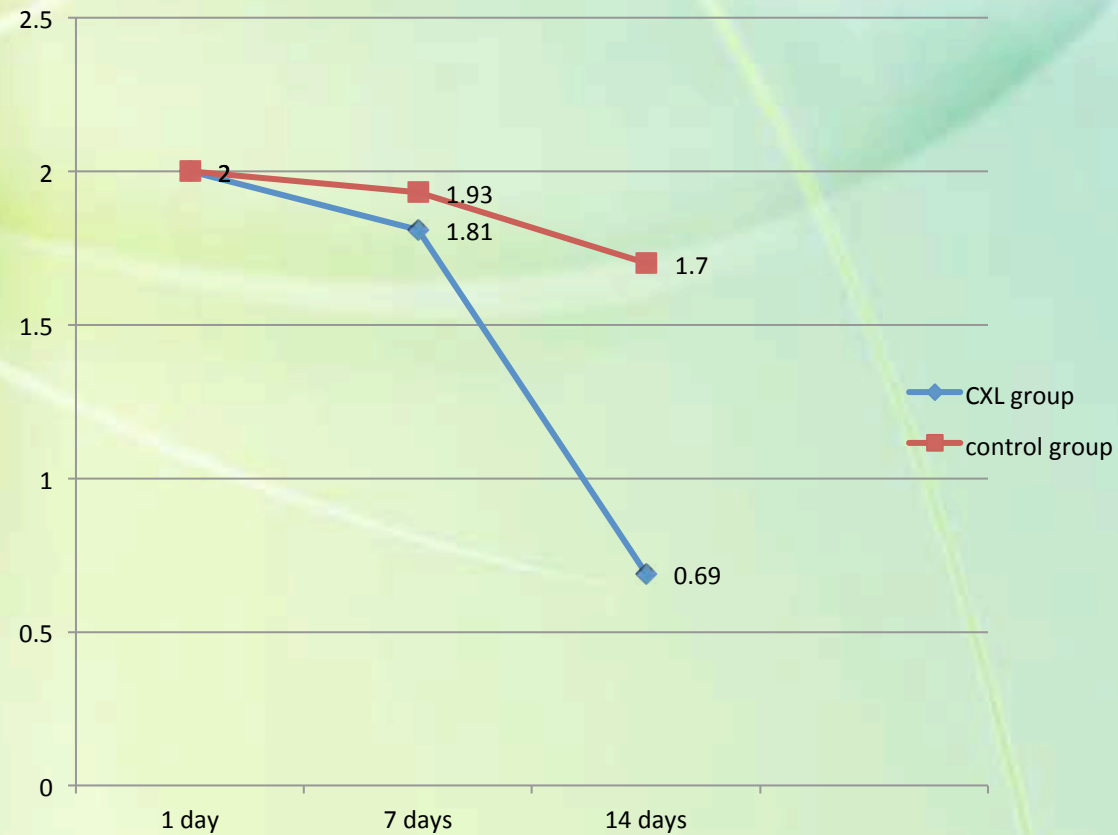
- One patient required AMT after 28 days

- One patient required conjunctival flap after 30 days.

****The duration of treatment was lower for the patients in CXL group ($P < 0.001$).**

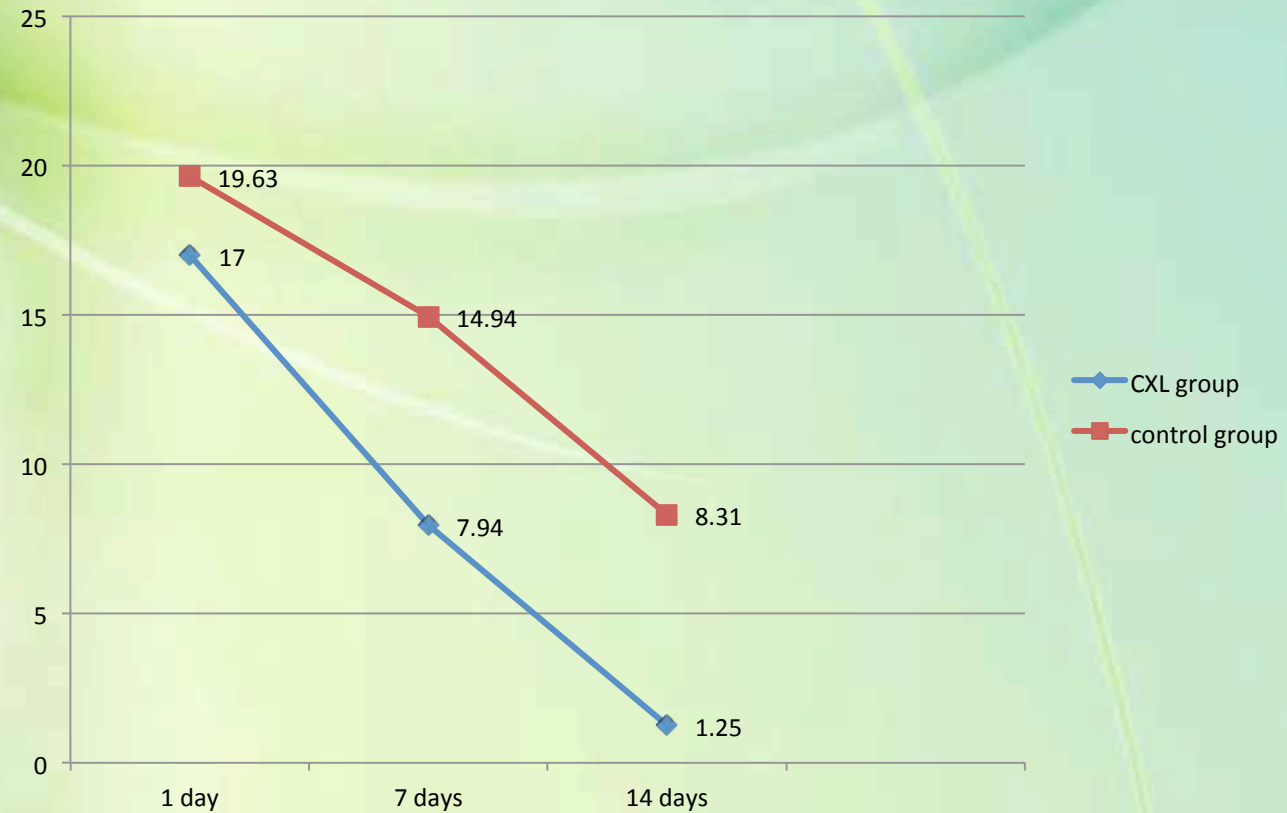
Results

- Grade of ulcers in CXL and control groups



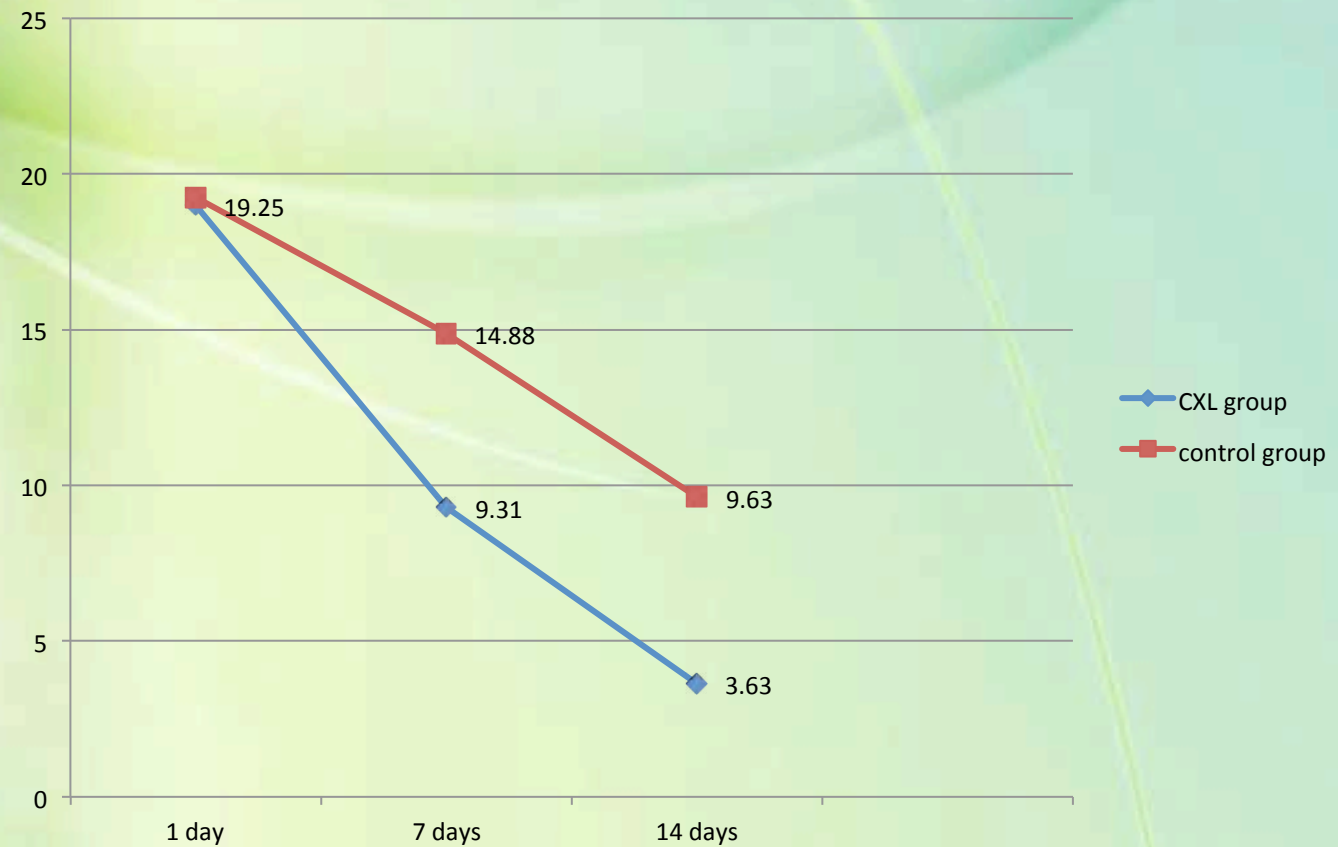
Results

- Mean area of epithelial defects (mm²) in CXL and control groups



Results

- Mean area of infiltrates (mm²) in CXL and control groups



Discussion and conclusion

- By shortening the course of treatment, CXL can reduce the toxicity effects of topical antibiotics on the cornea, strengthen the cornea and prevent healthcare associated infections.