

A Case Series to Evaluate the Clinical Effectiveness of a Collagen Matrix Wound Dressing

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BACKGROUND

- Chronic wounds place a significant burden for both patients suffering with wounds as well as on the healthcare system.
- Collagen dressings are a category of dressing with the ability to decrease the matrix metalloproteinase (MMP) burden while controlling inflammation and maintaining a moist wound environment.
- MMPs, pro-inflammatory enzymes, have been found to be elevated in non-healing chronic wounds, therefore contributing to a complex wound environment.
- This study tested the use of an advanced wound dressing made from collagen, sodium alginate, carboxymethylcellulose, and ethylenediaminetetraacetic acid (EDTA) with silver* and without silver[‡] as a safe and effective treatment to improve healing.

METHODOLOGY

- The study was approved by independent research board. All participants received the study dressing to apply to the open chronic wound with scheduled changes three (3) times a week after the baseline visit (week 0). Follow up site visits were conducted at week 2, week 4 and week 8.
- The characteristics of wound and MMP level were used to evaluate the wounds. Simple descriptive statistics such as percentages and rates of change were calculated.

RESULTS

- 10 patients with lower extremity ulcer were originally enrolled in study. One patient screen failed after wound biopsy results, and one discontinued after a severe infection of the wound, the total sample size was 8.
- Seven patients were treated with the silver-containing collagen dressing*, and one patients were treated with the non-silver collagen dressing based on the clinician's judgement.
- Three patients achieved complete healing over the 8-week study period, 2 of whom had full closure within 4 weeks.
- Overall, 7 out of 8 patients (88%) showed significant improvements. On average, wound size was reduced by 65% (SD=34) for the duration of the study and the rate of wound size reduction was 0.7 cm per week.

Table 1: Patient characteristics

Subjects	Diagnosis	# of visits	% of improvement
Subject 1	Diabetic foot ulcer	4	100
Subject 2	Venous ulcer	4	79.6
Subject 3	Venous ulcer	4	-0.23
Subject 4	Venous ulcer	3	100
Subject 5	Venous ulcer	4	37.5
Subject 6	Inflammatory ulcer	4	42.1
Subject 7	Venous ulcer	3	62.6
Subject 8	Diabetic foot ulcer	3	100

RESULTS

Figure 1: Showing the trend of wound healing over 8 weeks for each patient

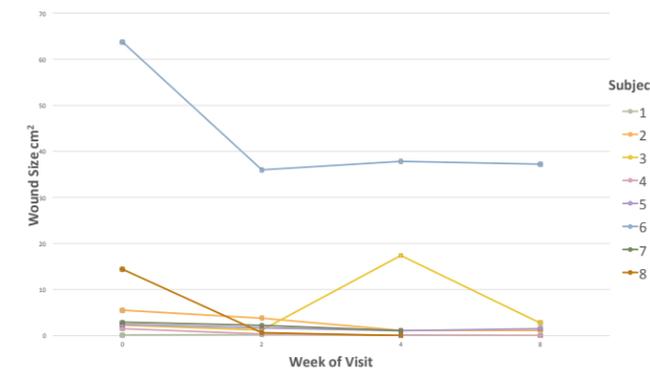
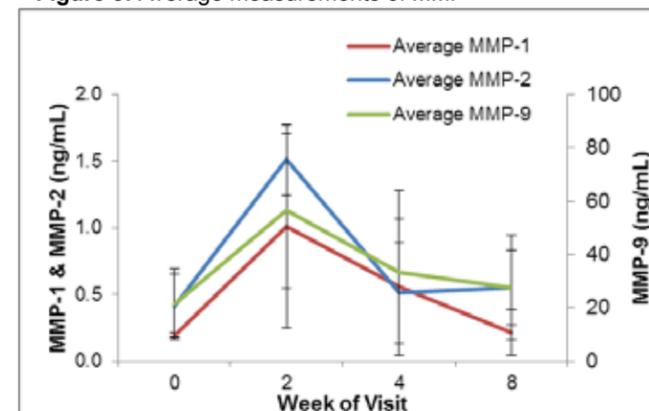


Figure 2: Pre- and post-treatment



Figure 3: Average measurements of MMP



CONCLUSION

Our findings in this case series suggests that chronic wounds in patients that received collagen matrix dressings were markedly improved over an 8 week period. Collagen matrix dressing may be more effective than standard care for chronic wounds but further studies are needed to establish this.

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FUNDING

The study was sponsored by Covalon Technologies Ltd through an unrestricted educational grant.

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