Introduction

• Negative pressure wound therapy (NPWT) and oxidized regenerated cellulose (ORC)/collagen/silver-ORC dressings are two treatment modalities that have individually demonstrated effectiveness in improving wound outcomes.1,2

• NPWT creates a wound healing environment by promoting perfusion, removing exudate, decreasing edema, and stimulating granulation tissue formation while ORC/collagen/silver-ORC (OCSO) dressings help provide an antimicrobial barrier and maintain a moist wound environment conducive to healing.3,4

• Although these treatments have been investigated individually, few studies have examined outcomes with their combined use.

Purpose

• This retrospective data analysis compared wound outcomes during use of NPWT with and without OCSO dressings.

Methods

• Data were extracted from the US Wound Registry.

• A matched cohort of patients who received NPWT with (n=485) or without (n=485) OCSO was created using propensity scoring across 39 variables.

• For patients in the NPWT + OCSO group, OCSO was applied topically on the day of NPWT initiation, and no other type of collagen dressing was used during NPWT treatment.

• In the NPWT cohort, no collagen dressings of any kind were used during NPWT.

• Outcomes between groups were compared using two-sample t-tests for continuous variables and chi-square or Fisher’s exact test for categorical variables.

Results

Results (cont’d)

• There were no significant differences in patient baseline demographics and comorbidities between groups.

• Wounds that received NPWT + OCSO were significantly more likely to improve and/or heal compared to wounds that received NPWT alone (406 [83.7%] vs. 360 [74.2%]; p=0.0003) (Figure 1).

• The relative wound area reduction was 40% for patients receiving NPWT + OCSO compared to 9% for patients receiving NPWT alone (p=0.0099) (Figure 2).

• The median time to achieve 75%-100% granulation tissue coverage with no measurable depth was 15 days for NPWT + OCSO patients vs. 21 days for NPWT patients (p=0.0037) (Figure 3).

• A higher percentage of NPWT + OCSO patients vs NPWT patients attained 75-100% granulation tissue coverage with no measurable depth at 1 week (14.4% vs. 9.9%; p=0.0307), 2 weeks (22.9% vs. 17.7%; p=0.0460), and 12 weeks (53.6% vs. 46.6%; p=0.0290).

Conclusions

This retrospective comparative analysis using real world data demonstrated improved healing outcomes with combined use of NPWT + OCSO versus NPWT alone.

References


*3M™ AcEaY.A.C™ Therapy System, *3M™ Promogran™ Collagen Matrix with ORC and Silver (3M, St. Paul, MN)