

COMBINATION OF NEGATIVE PRESSURE WOUND THERAPY (NPWT)* WITH A COLLAGEN DRESSING** TO PROMOTE CLOSURE OF WOUND CAVITIES AND GRANULATION

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Introduction:

NPWT is a well established treatment of wounds. The range of indications is broad and the effects are well described, however some indications are still lacking, such as the special challenge of tissue promotion and closure of wound cavities and tunneling.

The aim of this case series was to explore whether the stimulating effects of NPWT and collagen combined are useful in closing these complex wounds and perhaps one of the gaps in the indications.








Materials and Methods



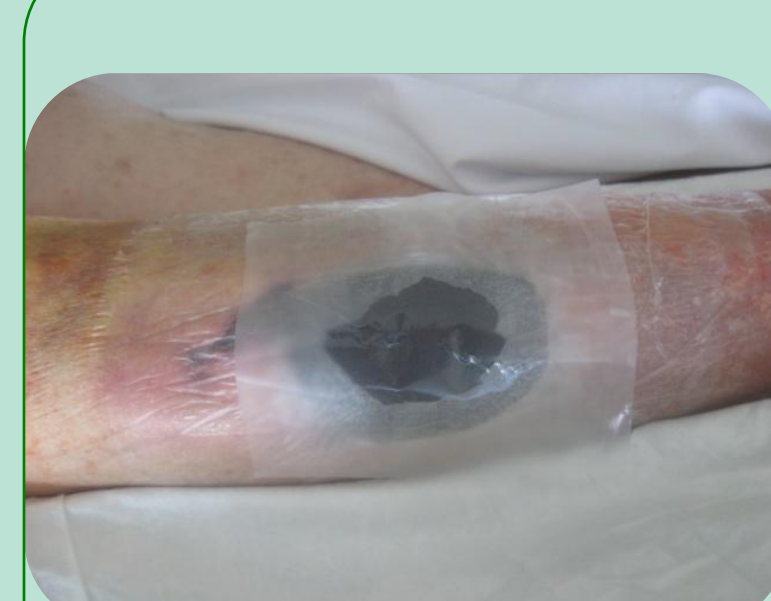



Patients with non-healing wounds, tunneling or wound cavities have been included in this case series.

Tunneling and cavities were filled with a collagen dressing**, covered with an antimicrobial gauze or foam and after occlusion with a film, continuous negative pressure of -80 mm Hg was applied.

Frequency of dressing changes depended on the exudate level and the need of further surgical intervention and was performed every 2-5 days. Assessment of wound/cavity depth, -size as well as pain took place upon dressing changes.

Case example 1:

 <p>Start:</p> <ul style="list-style-type: none"> > Wound depth 1,5 cm > Wound cavity: ca. 50 cm² > Wound size: overall ca. 80 cm² > Wound pain: 10 (VAS) 	 <p>> Intraoperative: Cavity filled with Collagen dressing**</p>	<p>Anamnesis:</p> <ul style="list-style-type: none"> ■ male ■ 78 years ■ Wound age: 6 weeks 	<p>Concomitant diseases:</p> <ul style="list-style-type: none"> ■ art. hypertension ■ Atrial fibrillation ■ Hypokaliemia ■ COLD 	<p>Treatment:</p> <ul style="list-style-type: none"> ■ NPWT* ■ Dressing changes every 3 - 6 days 	<p>> Application of antimicrobial gauze*** and NPWT*</p> 	<p>7th day:</p> <ul style="list-style-type: none"> > Wound depth: ca. 0,6 cm² > Wound cavity: ca. 10 cm² > Granulation tissue > Some sloughy tissue > Wound pain: 1 (VAS) 	<p>15th day:</p> <ul style="list-style-type: none"> > Wound depth: ca. 0,5 cm > Wound pain: 0 (VAS)  <p>> Well perfused granulation tissue > Beginning epithelialisation</p>	<p>Following treatment:</p>  <p>> Mesh-graft</p>	 <p>> Fixation of Mesh-graft with NPWT* for the next 5 days</p>
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<p>Start:</p> <ul style="list-style-type: none"> > Medium exudate > Wound depth 0,6 cm > Wound cavity ca. 18 cm² > Wound size: overall ca. 36 cm² > Wound pain: 10 (VAS) 	<p>> Filling-up cavity and wound bed with collagen dressing</p> 	<p>> Covering with foam and film occlusion > NPWT* at -80mmHg</p> 	<p>3rd day</p> <ul style="list-style-type: none"> > Granulation tissue > Wound depth: 0,4 cm > Wound size: overall about 18 cm² > Wound pain 4 (VAS) 	<p>6th day</p> 	<p>9th day</p> <p>Wound size reduction:</p> <ul style="list-style-type: none"> > From about 36 cm² to 18 cm² > Reduction about 50%  <p>Pain reduction:</p> <ul style="list-style-type: none"> > From VAS 10 to VAS 0 	<p>Practice:</p> <p>When applying the collagen dressing in cavities and tunneling ensure to fill the space completely and gently.</p>
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Case example 2:

Results

4 patients (age 52-86; 2 female) with non-healing wounds (wound age 2-6 weeks; 3 post-surgical, 1 post-traumatic) were included in this series.

All tunnelings and cavities could be closed (9-21 days). Obvious promotion of granulation tissue was observed.

Pain reduction was reported, from median VAS 9 (visual analog scale) at the start to VAS 1 at the end.

Conclusion

The additional use of a **collagen dressing combined with negative pressure treatment seems to have an extra influence on the growth of granulation tissue, especially when applied for closure of cavities and wound tunneling.

Also additional pain reduction was noted during this combined treatment.