NPWT WITH FOAM AND PHMB GAUZE PROVIDES GOOD INGROWTH OF MESH GRAFT ON LEG ULCERS, FIRST OBSERVATIONS.

P.Koppes¹, C.Marquardt¹, E.Bii², Th. Schiedeck¹, R.Paglinawan², M.Simon²
¹ Dept. of General and Visceral Surgery, Ludwigsburg Hospital, Germany
² Medela AG, Healthcare Dept., Baar, Switzerland

Introduction

Complex lower leg ulcers present a multifaceted challenge and require innovative solutions in management including mesh grafting. The key to successful mesh grafting are well-vascularized wound beds, low bacterial contamination, sufficient drainage of extensive seromas and a stable temporary fixation to the wound surface. Negative Pressure Wound Therapy (NPWT) systems have become a standard treatment in managing these types of complex wounds [1]. NPWT addresses wound bed preparation needs prior to graft fixation and the post management needs of graft fixation on the underlying tissue. Here we compare outcomes while using three different options of wound interface materials under NPWT with complex vascular wounds requiring mesh grafting.

Methods

For the following cases, we wanted to investigate our hypothesis of material equality on mesh graft transplants utilizing an NPWT system together with either PVA foam ****, PU foam ***** or PHMB gauze ***.

Firstly, to prepare the wound bed for skin grafting, all lower leg ulcers were subjected to NPWT with either foam or gauze materials (all without the wound contact layer).

Secondly, to aid the mesh graft uptake post graft transplantation, NPWT was applied once more for 4 or 5 days using either PVA foam ****, PU foam ***** or PHMB gauze ***.

Results

In our first observations on 3 various ulcers, all the different materials showed similar effects. Moreover, only minimal loss of small marginal areas were noted in all three cases.

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Notes:

* Invia® Wound Therapy for NPWT, Medela Inc., Chicago, U.S.A.
** Invia® Liberty, Medela Inc., Chicago, U.S.A.
*** AMD™ is a trademark of Tyco Healthcare Group LP
**** VA-C® Therapy System, KCI, Texas, U.S.A.
***** Aversa® NPWT System, Mibachieve Health Care AB, Gotthung, Sweden.

Patient de-identification is implemented in all photographs.

Although the manufacturers’ instructions for use with the NPWT pump* recommends pressure of 60-80 mmHg (or as directed by the physician), the primary researcher in this study has been investigating sub atmospheric pressure settings in the management of wounds and has experience with higher pressure settings in the management of wounds and therefore applied pressures commensurate with this experience.

Conclusion

PHMB gauze shows similar effects under NPWT as foam [2,3]. All patients were satisfied with the treatment and results. All ulcers healed using NPWT. Graft loss was only marginal which underlined our hypothesis of equal material value for covering mesh grafts on lower leg ulcers.

Correspondence

christoph.marquardt@kliniken-lb.de

Notes:

3. C.Marquardt, Th. Eggb载体, Th. Schiedeck: Gauze versus foam for topical negative pressure wound therapy. NPWT in postoperative infectious wound infections after abdominal operations. First clinical observations. 18th Conference of the European Wound Management Association in Lissabon, Portugal, 14.-16.05.2008

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