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(CASE REPORT)

The use of Dermacell on a leg skin tear (ST)

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Abstract

Dermacell is human acellular matrix (hADM) that is intended for supplemental support and covering for soft tissue repair. It acts as extracellular matrix.

Dermacell preserves 3D architecture and provides the necessary scaffolding to allow for cellular penetration and revascularization of the hADM into the patient.

Keywords: Skin tear; Wound; Chronic Wounds; Skin Substitutes; Skin Dressings; Matrices; hADM; Trauma

1. Introduction

Current treatment strategies for skin wounds/tissue support mostly aim to replace lost tissue rather than support intrinsic self-healing mechanisms.

However, new developments within the area of tissue-engineered scaffolds are leading to an ultimate goal of tissue regeneration rather than replacement [1][2].

Decellularized human skin has been used for a variety of medical procedures; primarily wound healing, soft tissue reconstruction, and sports medicine applications [3][4].

2. Case

Female of 41 years old.

Hit by a car on here left tibia while on motorcycle.

Brought in our hospital by the ER ambulance, immobilized as protocol refers.

No other injuries referred or revealed except a skin tear (ST) type 3 of the International "Skin Tear Advisory Panel" (ISTAP) [6-9].

No drugs, alcohol, or other substances addiction or use.

Smoker 10-15 cigarettes/day.

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The ST was grafted with hADM (Dermacell).

At 12 weeks a second hADM (Dermacell)was grafted. (Figure 4)

A B

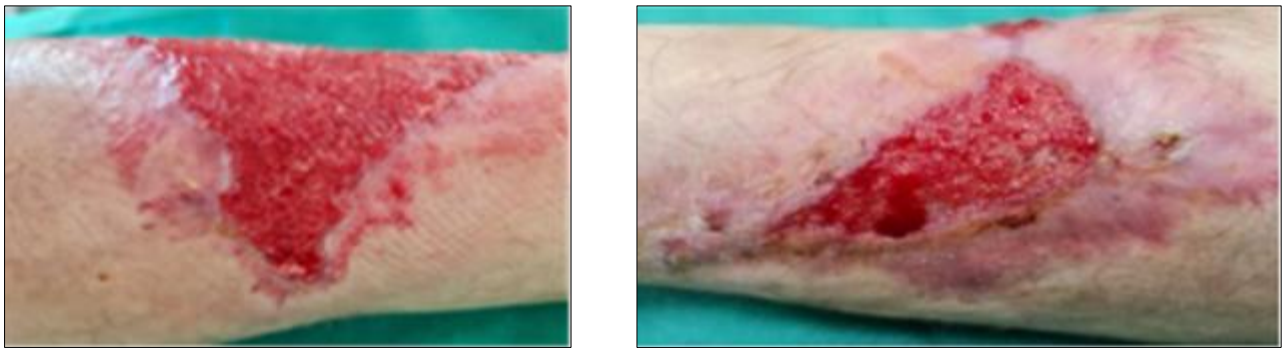
Figure 1 A-B: leg trauma (skin, subdermal, mussle)

2.1. Treatment

Debridement. [5][10] Systemic antibiotic therapy and Dermacell graft (Figure 1 A-B)

A B C

Figure 2 Graft in situ (A - 3 weeks post.op.; B - 5 weeks post.op.; C – 7 wks p.op.)



A B

Figure 3 A – 8 weeks post.op.; B – 10 weeks post.op

Figure 4 At weeks 12, second Dermacell graft

Figure 5 15 weeks post-op

3. Conclusion

Uneventful post-operative course and complete healing at 15 weeks post-op. (Fig. 5). Dermacell has shown efficacy as an adjunct in lower limb wounds treatment and has been shown to improve the aesthetic properties of skin.

Compliance with ethical standards

Acknowledgments

We thank LifeNet Health, Virginia Beach, Virginia, USA, for providing Decellularized Dermal Matrix (Dermacell).

Dermacell **is a technologically advanced Acellular Dermal Matrix that is used to treat diabetic foot ulcers, chronic non-healing wounds, and supplemental tissue support.*

Disclosure of conflict of interest

The Authors declare that there is no actual or potential conflict of interest in relation to this case study.

Statement of informed consent

Informed consent was obtained from the participant included in the study.

References

[1] A Andriessen, J Apelqvist, G Mosti, H Partsch, C Gonska, M Abel: Compression therapy for venous leg ulcers: risk factors for adverse events and complications, contraindications - a review of present guidelines. J Eur Acad Dermatol Venereol 2017 Sep, 31(9):1562-1568 doi: 10.1111/jdv.14390. Epub 2017 Jul 31

[2] S Raju: Skin necrosis as a complication of compression in the treatment of venous disease and in prevention of venous thromboembolism. Phlebolynphology – 2008,15(1):2

[3] Moore MA, Samsell B, Wallis G,Triplett, S, Chen S, Linthurst Jones A, Xiaofei Qin: Decellularization of human dermisusing non-denaturing anionic detergent and endonuclease: a review. Cell Tissue Bank. 2015, 16: 249–259.

[4] Samsell B, Softic D, Xiaofei Qin, McLean J, Sohoni P, Gonzales K, Moore MA. Preservation of allograft bone using a glycerol solution: a compilation of original preclinical research. Biomaterials Research. 2019, 23: 5.

[5] Schultz GS, Sibbald RG, Falanga V, Ayello EA, Dowsett C, Harding K, Romanelli M, Stacey MC, Teot L, Vanscheidt, W. Wound bed preparation: a systematic approach to wound management. Wound Repair Regen. 2003, 11: S1–S28.

[6] S Mazzei, A Sindoni, F Famà, G Bertasi, Nimfa, J Buizo, Mohab. A Shafei, Use of human acellular dermal matrix for wound healing in a patient with necrotizing fasciitis, after failure ofautologous dermal / epidermal skin graft: A case report Glob Surg. 2019, 5: 1-3.

[7] Wu Tsung-Hsuan, Giampietro Bertasi; The Use of Dermacell® in Fingertip Injury. Journal of clinical case report journal and images, no: 2641-5518 - DOI: 10.14302/issn.2641-5518.jcci-19-2626

[8] LeBlanc, Kimberly, Baranoski, Sharon, Skin tears, best practices for care and prevention; Nursing: May 2014 - Volume 44 - Issue 5 - p 36-46, doi: 10.1097/01.NURSE.0000445744.86119.58.

[9] LeBlanc K, Baranoski S Skin Tear Consensus Panel Members. Skin tears: state of the science: consensus statements for the prevention, prediction, assessment, and treatment of skin tears. Adv Skin Wound Care. 2011, 24(9 suppl):2–15.

[10] Sibbald RG, Orsted HL, Coutts PM, Keast DH. Best practice recommendations for preparing the wound bed: update 2006. Adv Skin Wound Care. 2007, 20(7):390–405.