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Myriad Matrix – A dermal matrix for diabetic and vascular wound of the lower limb without skin grafting

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Introduction

Myriad Matrix dressing from AROA Biosurgery ©, is a device derived from ovine (sheep) tissue – used in the reconstruction of complex wounds by facilitating the recruitment of fibroblasts, endothelial and immune cells to synthesize new tissue

Aim

To demonstrate the utility of myriad matrix in the reconstruction of diabetic and vascular lower limb wounds

Methods

This retrospective study involved 19 patients with vascular, diabetic or mixed diabetic vascular lower limb wounds. These patients had myriad matrix applied intra-operatively or post operatively. All patients had a non-healing wound of larger than 5cm diameter square. The type of wounds involved, the duration of matrix application, the incidence of wound-related complications, the time taken for dermal growth and hospital readmission post-matrix application was assessed.

Mean Age: 64 (Range 47-75)
Mean Weight: 65.2 (Range 40-151)

The cohort included 3 patients with diabetic lower limb wounds, 2 patients with vascular lower limb wounds and 14 patients with mixed diabetic and vascular lower limbs wounds.

Results

Type of wound	Number of patients	Diabetic	Vascular	Mixed diabetic/vascular	Average length of Myriad application	Wounds fully epitheliased	Average time taken for dermal growth	Readmissions	Reoperations
Foot	2	2	0	0	16	2	120	0	0
Heel	5	0	1	4	75	4	230	3	1
Ray amputation (foot)	4	1	1	2	41	2	90	2	0
Above knee amputation	2	0	0	2	34	2	83	0	0
Shin	1	0	0	1	75	1	150	0	0
Ankle	1	0	0	1	32	1	42	0	0
Transmetatarsal amputation (foot)	4	0	0	4	37	2	180	0	0

Average length of myriad application: 41 days (Range 6-120)
Average time taken for dermal growth: 147 days (Range 42 – 330)

14 out of the 19 patients completed the regime without any re-infection rates, and 18 out of the 19 patients managed to avoid a subsequent operation for the wound in which the dermal matrix was applied. The majority of patients involved in the current study completed the myriad regime with wounds healed subsequently by secondary intent without the need for skin grafting.





Figure 1 (Patient A): pre-operative, and at 1 month, 2 month clinic follow up



Figure 2 (Patient B): pre-operative and at 2 month, 9 month clinic follow up



Figure 3 (Patient C): pre-operative and at 2 month, 5 month clinic follow up

Figure 4 (Patient D): pre-operative and at 2 month, 5 month clinic follow up

Conclusion

In this short study, myriad matrix demonstrates itself as a feasible method of wound reconstruction even in complex diabetic and vascular lower limb wounds. This provides a useful option for patients when split skin grafting is contraindicated