Multi-Centre Clinical Evaluation of a Cell Conductive Extracellular Matrix Surgical Mesh in Plastics and Reconstructive Surgery – A Case Series

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Multi-laminate ovine stomach mesh (OFS) is indicated for both implant applications and dermal regeneration, and is a biologically accurate scaffold for soft tissue repair. The non-crosslinked extracellular matrix biomaterial is rapidly infiltrated, vascularized, and remodeled (Fig. 1). A multi-centre evaluation of the OFS PRS mesh was initiated to evaluate the performance of the device in a range of PRS procedures.

Dermal Reconstruction – Pediatric Surgical Dehiscence


Pre-op:

Procedure: Defect debridement. OFS PRS “Thick” applied and stapled to subcutaneous tissue and adjacent fascia.

1 Week: Separation seen between dermal and fascial layers. STSG applied.

2 Weeks:

100% graft take.

12 Weeks: Equivalent movement to pre-op status. Regenerated dermis had good elasticity.

Where patients received a STSG, graft take was excellent (90-100%). Participants reported no pain or adverse events and were satisfied with their surgical outcomes.

Complex Dermal Reconstruction

Patient: 25 yrs. Female. Previous surgical correction of the head and neck resulting in 3 mm dehisced surgical wound.

Pre-op:

Procedure: Debridement and partial complex closure re-exposed fascial tissue and wide OFS PRS “Thick” shaped graft in 6-0 chromic catgut and stapled to subcutaneous tissue. Advancement of 4 PRS’ 20% mesh continuous sutures.

1-3 Weeks

1-5 Weeks


9-12 Weeks: 100% epithelialisation.

3 Weeks: 2 cm incision site evaluated.

Flap Stabilization – Surgical Closure of Chronic Dehisced Wound


Pre-op:

Procedure: Surgical resection of the fascia with partial dehiscence. Placement of OFS PRS to cover the wound. 20% continuous sutures. Mesh graft applied to subcutaneous tissue. Mesh graft removed after 9 weeks.

1 Week: Mesh graft removed.

3 Weeks: Mesh graft removed.

4 to 9 Weeks: Wound managed with reconstituted collagen dressing and antibiotics. Suture. Continuous improvement in granulation tissue and epithelialisation.

Nipple Reconstruction

Patient: 30 yrs. Male. Previous nipple regeneration following skin graft.

Pre-op:

Procedure: OFS PRS mesh placed with 20% continuous sutures. Mesh graft removed after 9 weeks.

1 Week: Mesh graft removed.

3 Weeks:

3 Week: Mesh graft removed.

Surgical Closure of Chronic Dehisced Wound – Flap Stabilization and Topical

Patient: 30 yrs. Female. Neurological condition of the head.

Pre-op:

Procedure: Surgical resection of the fascia with partial dehiscence. Placement of OFS PRS to cover the wound. 20% continuous sutures. Mesh graft applied to subcutaneous tissue. Mesh graft removed after 9 weeks.

1 Week: Mesh graft removed.

3 Weeks: Mesh graft removed.

Nipple Reconstruction

Patient: 30 yrs. Male. Previous nipple regeneration following skin graft.

Pre-op:

Procedure: OFS PRS mesh placed with 20% continuous sutures. Mesh graft removed after 9 weeks.

1 Week: Mesh graft removed.

3 Weeks: Mesh graft removed.

Nipple Reconstruction

Patient: 30 yrs. Female. Previous nipple regeneration following skin graft.

Pre-op:

Procedure: OFS PRS mesh placed with 20% continuous sutures. Mesh graft removed after 9 weeks.

1 Week: Mesh graft removed.

3 Weeks: Mesh graft removed.