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The use of NovoSorb™ biodegradable temporising matrix (BTM™) in the reconstruction of complex soft tissue defects - An oncological, aesthetic and practical solution

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Background: NovoSorb™ Biodegradable Temporising Matrix (BTM™) is a novel synthetic, polyurethane bilayer dermal template. It is composed of a 2mm biodegradable and bio-compatible porous matrix membrane, that allows for the infiltration of cellular material, with an overlying superficial temporary sealing membrane. This superficial membrane is designed to be removed after a period of weeks, revealing a fully neovascularised dermis ready for definitive autologous split skin graft (SSG) coverage. This case series details the use of BTM™ in the reconstruction of 22 different soft tissue defects and their reported outcomes.

Method: Retrospective case series of patients from Lancashire Teaching Hospital Plastic Surgery department with a soft tissue defect, that was reconstructed using BTM™. Data collected included patient demographics; co-morbidities; indication for BTM use; anatomical area, depth, and total body surface area of defect; time from application of BTM™ to skin graft; method of fixation and dressing as well as percentage success and any complications.

Results: 22 patients were identified with a variety of different soft tissue defects and aetiologies. Soft tissue defect TBSA ranged from <1% to 8% with a median of <1%. In many cases patients had significant co-morbidities. In all cases BTM was secured with sutures and dressed with a silver based non adherent dressing +/- NPWT. 18 patients had >90% successful graft take, 1 patient 70% graft take, 2 patient's had complete graft loss and 1 patient not documented. Both graft failures were associated with pseudomonas positive wound swabs.

Conclusion: BTM™ provides a robust alternative to flap re-

construction in patients with significant comorbidities, limited donor sites or when a less-invasive approach is preferred. Further larger, randomised studies are required to evaluate this novel technique compared against both its animal alternatives (e.g. Integra™) and more traditional reconstructive techniques with emphasise on resistance to infection, scar contracture and aesthetic outcome.

Abbreviations

BTM™ - Biodegradable Temporising Matrix

TBSA - Total Body Surface Area

NPWT - Negative Pressure Wound Therapy

SSG - Split Skin Graft.

Recent Publications

1. Li H, Lim P, Stanley E, et al. Experience with NovoSorb® Biodegradable Temporising Matrix in reconstruction of complex wounds. ANZ J Surg. 2021;91(9):1744-1750.
2. Radtke C, Panzica M, Dastagir K, Krettek C and Vogt PM (2016) Soft Tissue Coverage of the Lower Limb following Oncological Surgery. Front. Oncol. 5:303.

Biography

Alex Parker is currently undertaking core surgical training in the North West of England with the aspiration to specialize in Burns & Plastics. He is a strong healthcare service professional with a Bachelor of Medicine, Bachelor of Surgery - MBChB from University of Liverpool as well as a Bachelor of Science - BSc in Molecular Medicine from University of Sussex.

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