

# USE OF SYNTHETIC DERMAL TEMPLATE IN THE MANAGEMENT OF A COMPLEX SOFT TISSUE DEFECT

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## INTRODUCTION

LARGE SOFT TISSUE DEFECTS CARRY A SIGNIFICANT INFECTION RISK. ADDITIONALLY, PATIENT COMORBIDITIES COMPOUND THE ISSUE OF HEALING/INFECTION RISK. CONSEQUENTLY, THE USE OF NOVEL TECHNOLOGIES INCLUDING SYNTHETIC DERMAL TEMPLATES THAT AID IN TISSUE REGENERATION REMAIN A SUBJECT OF CONVERSATION. THE PURPOSE OF THIS CASE STUDY IS TO POSE AN ALTERNATIVE TREATMENT FOR LARGE SOFT TISSUE DEFECT CLOSURE IN COMPLEX WOUNDS, IN NON COMPLIANT PATIENTS

## METHODS

WE PRESENT A **61 YEAR OLD, FEMALE**, WITH A HISTORY OF **CHRONIC LYMPHEDEMA** SEEN IN THE HOSPITAL FOR HEMATOMA OF RIGHT LOWER EXTREMITY, WHERE A BILAYER BIODEGRADABLE SYNTHETIC MATRIX (BBSM) WAS UTILIZED TO ASSIST WITH CLOSURE AND APPLIED WITH STAPLES. POSTOPERATIVELY, THE PATIENT WAS FOLLOWED CLOSELY WITH REGULAR WEEKLY CHECKS OF DERMAL TEMPLATE INCORPORATION. COMPRESSION DRESSING REGIMENT WAS CHANGED REGULARLY DUE TO PATIENT NONCOMPLIANCE WITH HER LYMPHEDEMA THERAPY. ROUGHLY 3 WEEKS POSTOPERATIVELY, STAPLES WERE REMOVED AND THE PATIENT BEGAN REGULAR VISITS WITH A WOUND CARE PROVIDER. AN AREA OF THE ANTERIOR WOUND WAS SURGICALLY DEBRIDED AGAIN, ROUGHLY 3 MONTHS POSTOPERATIVELY DUE TO CONCERN FOR INFECTION.

## RESULTS

AT THE 3 MONTH MARK POST APPLICATION OF THE BILAYER BIODEGRADABLE SYNTHETIC MATRIX, 70% OF THE WOUND HAD RE-EPITHELIALIZED. FOLLOWING THE SECOND DEBRIDEMENT, THE PATIENT WAS PACKING THE REMAINING OPEN AREA DAILY AND FOLLOWED EVERY 4-6 WEEKS. WOUND CARE TREATMENT ALONG WITH LYMPHEDEMA THERAPY CONTINUED. FINAL VISIT, 6 MONTHS POST OPERATIVELY, THE PATIENT IS DOING VERY WELL AND NEARLY COMPLETELY HEALED.

## DISCUSSION

BBSM IS A VIABLE, DYNAMIC OPTION FOR LARGE COMPLEX SOFT TISSUE DEFECT CLOSURE. APPLICATION IS SIMPLE, REQUIRES MINIMAL MAINTENANCE FROM A DRESSING AND WOUND CARE MANAGEMENT STANDPOINT. IT WORKS WELL WITH NONCOMPLIANT PATIENTS AND CAN ATTAIN ADEQUATE CLOSURE TO MINIMIZE INFECTION RISKS.



PREOP VISIT - TRAUMATIC HEMATOMA WITH SEVERE LYMPHEDEMA



POD 7 - DEBRIDEMENT WITH APPLICATION OF GRAFT USING SURGICAL STAPLES. WOUND VAC WAS APPLIED

INTRAOPERATIVELY AND LEFT IN PLACE UNTIL THIS VISIT TO ASSIST WITH INCORPORATION. VAC WAS DISCONTINUED AT THIS VISIT.



POD 22 - REMOVAL OF STAPLES GRAFT STILL IN PLACE, GRAFT IS ADHERED TO UNDERLYING TISSUE AT THIS POINT



POD 74 - JUST OVER THREE MONTHS LATER A HEALTHY TISSUE LAYER PRESENT WITH SMALL AMOUNT OF PROXIMAL UNDERMINING



POD 165 - JUST PRIOR TO SIX MONTHS POSTOP PATIENT IS ABOUT 99% HEALED WITH A PROXIMAL OPENING THAT WAS ROUTINELY PACKED BY THE WOUND CARE TEAM.