Coverage of Exposed Lower Extremity Bypass Vascular Graft with Integra and NPWT for Limb Salvage

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INTRODUCTION: Integra is a synthetic skin graft which was developed to treat large burns and to provide coverage of soft tissue defects. It acts as a network for dermal regeneration. Unlike skin grafts, Integra acts as a bridge by which revascularization starts from the terminal part of the bi-laminar dermal regeneration template and gradually spreads out from the edges and covers a non-vascularized lower layer. The advantage Integra is to reduce morbidity of the donor site, minimize scar formation and provide coverage of vital structures when flaps are not available.

OBJECTIVE: To cover an exposed lower extremity vascular bypass graft to achieve limb salvage in a patient with no other available options.

METHODS AND MATERIALS: 56-year-old male with type 2 diabetes, PVD, CAD and COPD. Status post failed three previous bypass surgeries on his right leg. The third bypass with ringed ePTFE (expanded (polytetrafluoroethylene) from the external iliac to a vein patched distal posterior tibialis. Due to severe PVD the patient wasn't a good candidate for local or free flap coverage.

RESULTS: The graft remained patent at first 6 months, where it needed distal anastomosis angioplasty to maintain patency. At one year post op, the graft thrombosed and the patient presented with gangrenous right foot which required right below knee amputation.

CONCLUSION: Using Integra and NPWT we were able to achieve limb salvage for a year in a patient with otherwise threatened limb with exposed bypass graft and no other options available.

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