



Rotational Flap Surgery for Chronic Sacral Pressure Ulcers

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Abstract

A pressure ulcer is defined as ischemic damage to soft tissue resulting from unrelieved pressure and / or shear, usually over a bony prominence. A Stage IV pressure ulcer is classified as a full thickness tissue loss with exposed bone, tendon, or muscle, which may include undermining and tunneling. Stage IV ulcers often require over a year to heal even with the most advance forms of treatment. Once these ulcers are healed, they are very susceptible to recurrence because the resulting scar tissue has only a fraction of its original tissue tensile strength.

Proper patient preparation, including adequate nutrition, resolution of infection, and pressure relief, are necessary for a successful outcome. The focus of this case is to demonstrate the basic anatomy and the advantages of a perforator-sparing buttock rotational flap in repairing a chronic stage IV sacral pressure ulcer.

History and Physical Exam

The following case involves a 66 year old white female who presented with a one-year old non-healing stage IV sacral pressure ulcer. The patient is immobile due to chronic disc disease and pain. This was complicated by severe osteoporosis, along with multiple back surgeries and post operative infections. She had been on multiple antibiotics due to these recurrent infections involving her spinal surgery sites. At the time of her initial clinic consult she had MRSA involving her spine and her pressure ulcer. Past treatment of the ulcer included both surgical and enzymatic debridement, hydrogels, Iodosorb and the wound VAC. At

the time of her initial evaluation she denied having any fever or chills.

Past surgical history was significant for over 12 back surgeries.

Social history revealed that she was a 1 pack per day smoker for over 30 years, but had quit 20 years previously.

Review of systems was positive for occasional stress incontinence.

Physical exam revealed a well nourished, well developed white female with a marked decrease in range of motion due to back pain and spinal deformity. The sacral ulcer did not appear to be infected. It had a depth of 3 centimeters to bone, with marked undermining and a moderate amount of serous drainage. The edges were macerated and the periulcer skin and subcutaneous tissue was very fibrotic

Before Treatment



Treatment

Initial treatment included a culture of the ulcer which revealed a few yeast, moderate alpha hemolytic streptococcus, and rare staphylococcus. Proper off-loading was explained to the patient and a surgical consult was arranged to debride the ulcer. She was continued on the oral antibiotics previously prescribed.

Before Treatment



Debridement



Post-operatively the ulcer was packed with a silver dressing and the antibiotics were discontinued. Over the next few months, the local ulcer care included enzymatic debridement and Iodosorb depending on the condition of the ulcer bed. Follow up cultures showed no sign of infection or critical colonization. The ulcer size gradually decreased, but the undermining and rolled edges persisted, and the periulcer skin remained very fibrotic.

During Treatment



A repeat surgical debridement was requested to remove the fibrotic skin and unroof the ulcer.

During Treatment

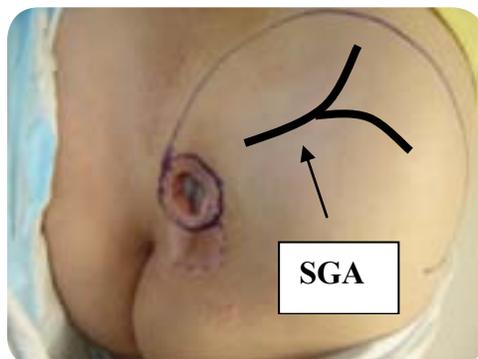


Despite the follow up debridement, the periulcer skin was still very fibrotic and the ulcer failed to progress. A plastic surgery consult was obtained to further debride the fibrotic skin and close the ulcer with a rotational flap.

Surgery

The ulcer and fibrotic tissue was excised and superior gluteal artery (SGA) perforator – sparing buttock rotational flap was performed.

Surgery



The procedure closed the ulcer defect and the rotational flap healed completely.

After Treatment



After Treatment



Conclusion

There are multiple advantages of a perforator – sparing rotational flap. First, it provides a well vascularized flap that can better withstand pressure induced ischemia. Second, it has adequate bulk to fill the entire depth of the defect and provide a cushion against shear. Third, it is mobile enough to be rerotated in the event of recurrence. Finally, the healing time can be shortened by months utilizing this procedure

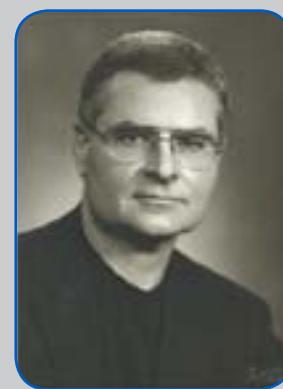
Questions or Comments?

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About the Author



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THE PRIMARY CARE PHYSICIAN SHOULD REFER THE PATIENT FOR ADVANCED WOUND CARE IN A WOUND HEALING CENTER IF THE PATIENT:

- Has a wound that persists for more than 30 days after treatment
- Has a wound and Reynaud's phenomenon
- Has purpura
- Has a wound and hypertension
- Has gangrene or necrotic tissue in a wound
- Has a wound and diabetes