

Coverage of Sacral Pressure Ulcer with Superior Gluteal Artery Perforator Flap

Dr. A. Venkata Subramanian¹, Dr. S. Gnanasekaran², Dr. V. Jeyakodish³

Department of Plastic Surgery, Madurai Medical College, Madurai, Tamil Nadu, India

Abstract: *The purpose of this report is about the use of SGAP Superior Gluteal artery flap for the cover of Sacral Pressure Ulcer in our institution at Madurai Medical College. We had utilised SGAP Flap in 6 patients. In all the patient flap survived well there were only minimal complications. This Flap is a reliable one with advantage of preserving other options if recurrence occurs.*

Keywords: sacral pressure sore, paraplegics, SGAP flap

1. Introduction

Sacral pressure ulcers are common and recurring complication in patients who are paraplegias or bed bounded. Options for closure of pressure ulcer are multiple and include primary closure, skin grafting, local random flap, myocutaneous flap, perforator based fasciocutaneous flap. For Grade IV Sacral pressure ulcer of large size Gluteus maximum myocutaneous flap and Gluteal artery perforator flap are used with reliable vascularity⁽¹⁾.

SGAP flap is a fasciocutaneous flap based on perforator from superior gluteal artery. It is the refinement of Gluteus maximum myocutaneous flap. This flap leaves Gluteus maximus muscle intact. We have used this flap in our department with good results.

2. Methods

SGAP flap is marked based on the superior gluteal artery which emerges at the border of the sacrum at the junction of the medial one third and lateral one third of a line drawn between the posterior superior iliac Spine (PSIS) and apex of the greater trochanter of the femur. Surface marking of the piriformis muscle is by a line from the top of the greater trochanteric of the femur to a point between the PSIS and the coccyx.

The perforators are marked by a hand held Doppler above the second line and marked. Flap is marked based on lateral most perforator to create a longer pedicle and greater are of movement. Initially adequate debridement was done by pseudotumour excision. The patient is operated lying prone perforator unclear general anesthesia. Loupe magnification was used the incision is made along the superior border skin, subcutaneous tissue and fascia over to the muscle are incised at the same level. The fasciocutaneous flap is raised off the muscle and perforator are identified suitable perforator is identified and slow dissection is done splitting the muscle fibers and ligating small muscle side branches.

Inferior border of the flap is then incised and raised. Pedicle is dissected until the pedicle length is adequate cover the defect without tension. Dissection can be done upto exit of origin of superior gluteal artery if needed by intramuscular dissection.

Donor area is closed primarily with suction drain Patient is maintained in prone position and on his sides until the flap is healed.



3. Results

All the male patient and paraplegia following spinal injury. We have operated six cases in our unit between March 2015 to March 2016. All are male and paraplegics following spinal injury. In Four patients Flap was mobilized to the defect by rotation on the pedicle and by Advancement in other two patients. All the Flaps healed well. There were minimal complications managed conservatively.

One patient developed sinus and discharge at the flap margin after 4 months. Debridement and Flap resuturing done. Wound settled well. Another patient developed B/L Ischial pressure Ulcer after 6 months which were managed using inferior part of Gluteus maximus muscle advancement for padding and skin suturing done.

4. Discussion

Patients who are bed bound are more prone for pressure Ulcers. Surgical methods for the closure include Primary

closure, Skin Grafting, Local random Flaps, Muscle Flaps and Free Tissue Transfer.

Gluteus maximus myocutaneous flap is a most popular option because of its reliable vascularity. Many variations are described like Turnover flap, Rotation Flaps, Island Flap and Sliding Flap by Ramirez⁽³⁾.

The SGAP Flap is a pedicled faciocutaneous flap described by the work of Kroll and Rosenfeild⁽⁴⁾. Koshima et al⁽⁵⁾ and Verpaele et al⁽²⁾. It is large, safe flap can be raised with little bleeding. Also it preserves the muscle and little donor site morbidity. Yamamoto had showed better long term result than muscutaneous flap in the reconstruction of the pressure sore⁽⁶⁾.

This also leaves the other reconstructive options viable. SGAP flap can be raised easily and is recommended for someone started doing perforator flaps⁽⁷⁾.

We would recommend the SGAP flap as a good alternative in the coverage of the Sacral pressure Ulcer as it is every to raise with good vascularity, minimal complication⁽⁸⁾ and preservation of Gluteus maximus.

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