



A STUDY ON RESULTS OF LOCAL FLAP COVER OF SCALP DEFECTS IN A TERTIARY CARE HOSPITAL

Plastic Surgery

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ABSTRACT

Background: Scalp reconstructions may be required after trauma or tumor resection. Many patients present to plastic surgeons with scalp lesions which require wide local excision with margin, following which the defect is too large to be closed primarily. These lesions can be benign or malignant. Skin grafting of these defects gives poor cosmetic outcome. Knowledge of local flaps aids in closing these defects to heal by primary intention. **Study Design:** Prospective, interventional, institution based, conducted at Apollo Multispeciality Hospitals, Kolkata, India. **Method:** Our study includes 20 patients operated over a period of 2 years; all patients underwent local scalp flap as a reconstructive technique for soft tissue defects and were followed up for 1 year, without any significant complications. **Conclusion:** The local scalp flaps are an efficient and reliable option for reconstructing complex soft tissue defects. This can be particularly important in patients with significant medical comorbidities who cannot tolerate a lengthy operative procedure.

KEYWORDS

scalp defect, local flap, transposition flap, rotation flap.

INTRODUCTION

With the high incidence of cutaneous malignancies, sun-exposed regions of the head and neck are at higher risk for the disease.[1] The scalp region of the head and neck, in particular, is commonly affected with skin cancer. The most commonly encountered tumors of the scalp include squamous cell cancer(SCC), basal cell cancer(BCC), and melanoma. Without treatment, these skin cancers can grow radially to involve a significant area of the scalp and vertically through soft tissue and periosteum into the cranial bone. Wide local excision of large scalp tumors that extend into and through the periosteum poses a reconstructive challenge. Achieving a negative surgical margin often requires removal of a large portion of soft tissue and periosteum. The resulting defect can be difficult to close due to the poor soft tissue elasticity of the scalp.

The goals of scalp reconstruction are to replace like with like, acceptable cosmetic appearance, and minimal donor site morbidity. Reconstructive options for scalp defects include local and regional flaps or free tissue transfer. Local flaps have the advantage of good vascularity, low donor site morbidity, hair bearing skin, and a relatively short operative time. The most commonly used flaps include rotation flap and bipedicle advancement flap [2]. The main utility of this flap is for defects that have the pericranium removed and exposed bone. This flap uses the robust vascularity of the scalp so that it can be oriented in any direction relative to the defect. Once the scalp flap is rotated into the defect, the donor site, which has the pericranium preserved, is covered with a skin graft. Intraoperative measurement of the defect and the presence or the absence of pericranium will provide indications for other indicated reconstruction strategies [3].

METHODOLOGY:

This prospective, interventional, institution based study was conducted at Apollo Multispeciality Hospitals, Kolkata, and included 20 patients in the age group of 30-80 years operated over a period of 2 years – during January 2021-December 2022 and were followed up for 1 year without any serious complications. Patient variables included age, sex, size of the defect, and early and late surgical complications.

Under aseptic precautions, the lesion is removed with adequate margins depending on the pathology. The diameter of the defect was measured, and a flap was drawn adjacent to the defect. The flap is raised in a subgaleal plane, being careful to leave the pericranium intact. Dog ears were not removed to ensure flap viability. The flap is rotated/transposed to the surgical defect with a two-layered closure. A split-thickness skin graft is harvested from the thigh and applied to the donor site, and a bolster dressing is placed.

RESULTS

There was good hair growth over the rotated/transposed flap. The sutures were removed by the tenth post operative day. Only 1 patient had partial skin graft loss in the donor area which settled well with dressings. No major complications were noted in any of the patients during the one year follow up period and all patients were satisfied with

the final appearance.

Table 1 – General Details

Serial No	Age	Sex	Size Of Defect	Complications
1	31	M	3 CM	NIL
2	40	M	4 CM	NIL
3	48	F	5 CM	NIL
4	53	M	6 CM	NIL
5	55	M	4 CM	NIL
6	58	M	4 CM	NIL
7	60	M	6 CM	NIL
8	63	F	5 CM	NIL
9	67	M	7 CM	NIL
10	68	M	6 CM	NIL
11	70	M	8 CM	NIL
12	73	F	5 CM	NIL
13	56	M	7 CM	NIL
14	46	M	6 CM	NIL
15	38	M	4 CM	NIL
16	45	F	5 CM	Partial Skin Graft Loss
17	76	M	8 CM	NIL
18	28	M	3 CM	NIL
19	30	M	5 CM	NIL
20	77	F	4 CM	NIL

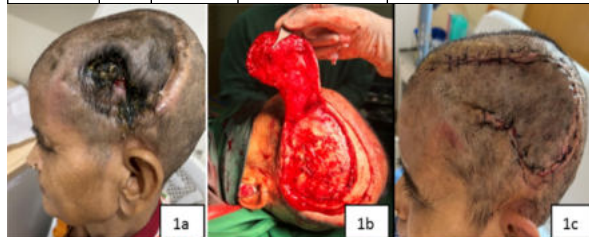


Figure 1a – osteomyelitis of bone flap, 1b – raising a transposition flap, 1c – 1 week after flap inset.

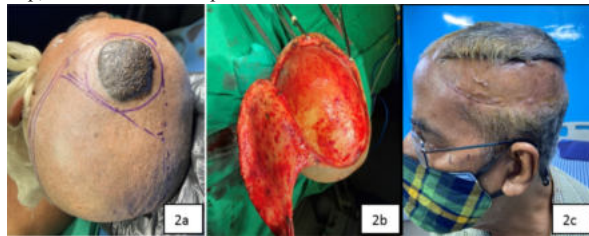


Figure 2a - pre operative markings for BCC scalp, 2b – flap elevated, 2c – 6 weeks post operative.

CONCLUSION

It is pertinent to conclude that patients undergoing a local scalp rotation/transposition flap experience less time under general

anesthesia, a shorter hospital stay, and a reasonably good cosmetic and functional outcome without any significant complications.

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