Scalp defects following electrical burn: A South East Asian perspective of 38 cases

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Introduction: Scalp contact burns is relatively uncommon compared to extremities. The full thickness of the calvarium can be charred by the passage of electricity. These require debridement and soft tissue coverage, which range from drill holes in calvaria, skin grafts, local flaps, free tissue transfer or expanded tissue flaps. This study explores the different modes of presentation of electric contact burns of scalps and its management options.

Method: All cases electrical burn admitted between 2013 and 2016 were reviewed and only those with scalp defects were analyzed.

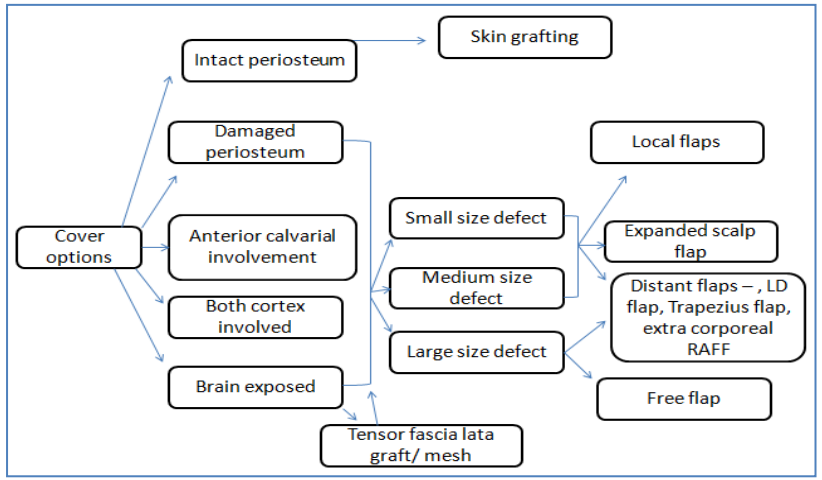
Discussion: Scalp burns are rare with 11% of all electric burn from this study. 86.6% were male, with the mean age of 35.5 years. Debridement was performed in all cases. We will then have the base of defect as periosteum, anterior cortex, diploe, dura and brain tissue. We largely adhere to the reconstructive ladder for the choice of flaps depending on the constituent of the base of defect.

V-Y, V-Y-S, rhomboids flap, pin wheel flaps, rotation advancement flaps and transposition flaps are the local scalp flaps design available. Juri flap can be used for large anterior defects.

Even though free flaps are treatment of choice for large defects, we have to resort to distant flap options when local options are not suitable (lack of donor vessels due to burns, after repeated failure of free flaps). These include forehead flaps, trapezius flap, latissimus myocutaneous flap and dorsal scapular island flap.

Expanders are also used secondarily when you need to get hair bearing scalp to grafted or muscle flap region.

Free flaps, such as latissimus dorsi flap, fasciocutaneous free flap (radial forearm, ALT) have opened up a new avenue of reconstruction. These flaps can be used as interim option until expanded skin is used to cover the defect.



With regards to bony reconstruction in our study, devitalized bone is left uncovered till patients recover physically for future surgeries. Split calvaria bone grafting is popular and choice for bone grafting as it yields better cosmesis.

Conclusion: Electric contact burn of scalp presents with different depths. These require debridement of devitalized skull and coverage of the defect with locoregional or free flap.