

TRANSPLANTING HAIR FOLLICLES INTO SCAR TISSUE AND GRAFTED SKIN

ISHR

Transplanting hair follicles into scar tissue and grafted skin has some unique obstacles, including reduced blood supply, making complete growth of grafts more of a concern and laxity in the donor site making planting of the grafts more difficult. On review of the literature, there are few examples of patients with large area of burns(2,3,4) presented after having follicular unit transplantation. Tissue expanders are still often used offering limited results. Before considering transplantation, it is the authors opinion that donor blood supply and the thickness of the grafted skin and scar tissue must be assessed. Other concerns after transplanting into grafted skin and scar tissue include infection and tissue necrosis due to poor blood supply to the area.

Case Report

A 25 year old male suffered severe full thickness burns to his face, neck and proximal upper extremities in 2004. He was treated at a burn center, having a total of 28 surgical procedures, including a failed attempt at tissue expansion in order to restore his left temple hairline.



His first surgery involved removing a small 1 cm by 2 cm strip from above the patients right ear, providing 244 one, two, three and four hair grafts. The donor area was anesthetized with 5 ccs of Mepivacaine 1% with epinephrine. 5 ccs of tumescence with 1:100,000 epinephrine was used in this area as well. The grafts were left larger with surrounding tissue and sebaceous gland intact (1) in anticipation of poor growth with the poor blood supply into scar tissue. The recipient area was anesthetized with 5 cc's of Mepivacaine with 1:200,000 epinephrine and 5 cc's of saline with no epinephrine was used as tumescence. We limited the use of epinephrine to limit vasoconstriction in the compromised scar tissue. The grafts were planted into 1 mm slits on the patients left brow attempting to match the patients right brow packed at about 50 grafts per square cm. Surprisingly, within five months, the patient had experienced full growth of virtually complete growth of the grafts in the recipient area.



Five months after the first surgery a second strip was removed from the back of this patients head, measuring 1.5 cm by 18 cm, extending from 3 cm to the left of the midline on the occipital ridge to above his right ear. The donor area was anesthetized with 15 ccs of Mepivacaine 1% with epinephrine. 20 ccs of tumescence with 1:100,000 epinephrine was used in this area as well. This provided 2322 grafts including 527 one hair grafts, 1184 two hair grafts, 505 three hair grafts and 106 four hair grafts. These were left as "chubby" grafts as well, with ample fat around each of the grafts in anticipation of the limited blood supply provided by the scar tissue and skin grafts.



The recipient area was anesthetized with 15 cc's of Mepivacaine with 1:200,000 epinephrine and 5 cc's of saline with no epinephrine was used in the tumescence. We limited the use of epinephrine to limit vasoconstriction in the compromised scar tissue. The grafts were packed at 50 per square cm in his temple and sideburn area, with an attempt to match the hairline on the right. A one mm blade was used to make the sites. Again, within five months there was complete growth of the grafts in the recipient area.

Discussion

My experience with this patient shows that follicular unit transplantation is an option in the reconstruction of hairlines in patients with scarring and skin grafting, as long as there is a good donor site, the recipient area is sufficiently thick and has good blood supply. Before attempting a large area, the author would suggest trying a smaller test area to assess graft survival and potential complications as mentioned above. Technicians should be told to cut grafts with ample surrounding tissue and there should be limited use of epinephrine in the recipient site. With these precautions taken, most patients can expect a good result from follicular unit grafting into scar tissue and grafted skin.



Dr. Robert Jones MD

Dr. Robert Jones MD

Is a physician dedicated to full time hair transplantation, providing state-of-the-art hair transplants. He is a member of the International Society of Hair Restoration Surgeons (ISHRS), is a Diplomate of the American Board of Hair restoration (ABHRS)

info@drrobertjones.com



References

1. Seager, David Julian, Micrograft Size and Subsequent Survival, Derm Surg 1997;23:757-762
2. Unger W, Nordstrom R. Hair Transplantation under split-thickness skin Grafts and very thin skin. In Unger W, ed. Hair Transplantation. 3d ed. New York: Marcel Dekker, 1995:312-317
3. Rose P, Shapiro, R. Transplanting into scar tissue and Areas of Cicatricial Alopecia. In Unger W, Shapiro, R, ed Hair Transplantation, 4th ed, New York:Marcel Dekker, 2004:606-609
4. Nordstrom RE, Punch hair grafting under split-skin grafts on scalps. Plast Reconstr Surg 1979;64:1

Capri 2010