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MON.P005.001 – The Use of Partial Thickness Skin Allograft as a Temporary Biologic Dressing of Burns

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Introduction: Burns are a major global cause of disability and death. Some of the patients need to hospitalize and costs of burn care are high. Biological dressings play an important role in treatment of severe burns. They decrease the number of post-operation dressing using analgesics mortality and morbidity rate. The partial thickness skin allograft is an excellent source for treatment of burn wounds. Skin preservation unit of Iranian Tissue Bank (I.T.B) provided, processed and stored allograft skin samples from cadavers. This study aims to evaluate I.T.B skin allograft using in deep dermal burn patients as a temporary wound dressing.

Material and method: After screening healthy donor with age limitations (6months to 60 yrs) and getting informed consent from their families. The blood samples of cadavers were screened serologically for HIV(HIV1,2 Ab), Hepatitis B virus(HBS Ag), Hepatitis c virus(HBC Ab), RPR for syphilis, human t-lymphotrophic virus(HTLV1,2 Ab) and multiple cultures were done for microbiological safety. After ensuring the safety of donor skin. It was harvested at a depth of 0.4 mm by an electrical dermatome. Lower limbs, back and buttock were mainly areas for skin retrieval. The harvesting skin placed in a sterile container, filled by transport medium supplemented with an antibiotics mixture and transported to processing unit in an ice box. In Iranian tissue bank, after tissue processing and ensuring tissue safety by quality control unit, we used freeze drying and finally packaged skin sterile with Gamma irradiation. Freeze dried skin (in meshed form) was grafted in 10 patients volunteer with deep dermal burn with limited autograft for understanding the efficacy of I.T.B freeze dried partial thickness skin allograft.

Result: The mean age of these 10 patients was (30.7±6.2). Male to female ratio was 6/4. Burn cause of the patients was fire. Mean TBSA of patient was (42.9%±16.6%). Mean skin allograft usage was 10-20%. Total time of hospital stay duration for these patients was (32.3±26.5), and mean of hospital stay duration after allograft used were 20 days. We noticed a good vascularisation in graft areas and reduced pain after using it. One patient died after operation because of pulmonary emboli and sepsis.

Conclusion: The result of this investigation shows that freeze dried split thickness skin allograft in Iranian Tissue Bank, is appropriate alternative for temporary wound dressing. We conclude that infection, length of hospital stay, pain, the number of burn dressing and mortality rate is reduced after I.T.B skin allograft.