Editorial
Amnion Bank- Need of Hour?

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Burn injury is one of the major causes of morbidity and mortality in Pakistan[1]. There is no study done so far which reflects exact incidence of burn in Pakistan. One study suggest that In Pakistan one person gets burn after every 5 minutes. One out of ten , who get burnt, needs treatment at intensive care unit. One out of five who got admission succumbs to his/her injuries[2]. Management of the Burns is highly expensive. It entails the admission to ICU, use of intra venous crystalloids and colloids, broad spectrum antibiotics, multiple grafting sessions, management on Ventilator, Physiotherapy, Hydrotherapy and social rehabilitation.

A third world country like Pakistan where 0.6% of GDP is spent on Health by Government and where per capita income is less than 5 US$, the treatment of major Burn is beyond the limits of common person.. Because of high cost of treatment and high mortality, most of the private hospitals also do not take burn patients. They take their refuge in the excuse of lacking Burn ICU in their hospitals. That's why most of the burn patients are refereed to Government run hospitals.

The other factor that is hampering cost effective treatment in Burns is the paucity of Plastic Surgeons. In Pakistan there are at the moment 120 registered Plastic Surgeon who are member of the Pakistan Association of Plastic Surgeons. Out of which 35 are in the province of Sindh. 40 are in the province of Punjab, Twenty are in the Khyber Phutnkwa (NWFP) and five are in the province of Baluchistan.

The most important factors that determine the Burn prognosis are percentage of Burns, Depth of Burn, age of the patient, coexisting disease and element of inhalation injury.

The main tissue that is destroyed in Burn injury is the skin, which is the largest organ of the body. Its loss causes both primary and secondary problems.

The mainstay of management of burn wounds in that they have to be covered by autologous skin. During early periods of post Burn injury this is not possible as there is paucity of donor site as well as patient is in precarious condition. The state of art treatment in developed countries is early tangential excision of the deep wounds once the patient is hemo-dynamically stable. This is followed by application of porcine skin or cadaveric skin obtained form tissue bank, or epithelial cultures obtained form Epithelial cultures Laboratory. This temporary coverage of wound put Patients into positive Nitrogen balance and patient withstand autografting in due courses of time.

In developing counties like India, Pakistan, Bangladesh, Sri Lanka, Egypt, Malaysia this is not possible. Porcine skin in Muslim world is impossible to think of due to religious grounds. Cadaveric skin also one can't use due to cultural and religious grounds. Epithelial cultures are not yet available due to expensive and sophisticated technology plus they lack the firm dermal base.

Therefore in order to overcome this major deficiency of skin, a substitute like Amniotic Membrane seems to be the best option in this part of the world. Amniotic Membrane has been used since 1913 when Salbella first used in Burn case [(2)]. In 1942 DeRoth used it as a replacement for conjunctiva[(3)].

The role of Amniotic Membrane in management of Burns wound[(4)], chronic skin ulcers & lacerations[(5)], on split skin graft donor site[(6)], in Vaginoplasty[(7)], reconstruction of floor of mouth[8], as interposition vascular graft [(9)] has been tried and beneficial effects were found. It has been used in various forms i.e. [(10)] fresh, [(11)] frozen and [(12)] lyophilized freeze dried gamma radiated form.

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Various studies have been conducted to show the difference in potency of freeze dried amniotic Membrane verses fresh Amniotic Membrane. Also studies were done about viability of cells with freeze drying. There is not much difference seen in the potency of fresh and freeze dried lyophilized amniotic membrane. [13] Cell viability of Amniotic Membrane decreases during storage. But this decrease in life of cells is minimal when Amniotic Membrane is stored at around four degree Centigrade.

Another method of prolonging the shelf life of Amniotic Membrane is to treat it with glutaraldehyde. Studies have shown this to be best method. [14] In county like Pakistan, with poor health resources, Amniotic Membrane is the best skin substitute that can be used in every Burn patient. Because of high birth rate it is easily and cheaply available. It's cleansing and preparation is convenient and can be taught to Operation Theatre technicians in a week time. Its storage is cheap and cost effective and can be used for prolonged period[15].

Skin Bank for country like Pakistan are not practical solutions, Amnion Banks are! Skin Bank has porcine and cadaveric skin which will never be acceptable to population of Pakistan.

All Plastic Surgeons of Pakistan must strive for the establishment of Amnion Bank and must use Amniotic Membrane for temporary skin coverage, especially in burn patients.

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