INTERNATIONAL ABSTRACTS

FUNCTIONAL LATISSIMUS DORSI MUSCLE TRANSFER TO RESTORE ELBOW FLEXION IN EXTENSIVE ELECTRICAL BURNS

This is a case report from the USA describing a case of bipolar latissimus myocutaneous flap restoration of elbow flexion and provision of soft tissue coverage following a major electrical burn injury. The patient’s management is described. Recovery of elbow flexion was monitored in the subsequent months, and following intensive physiotherapy and splinting, the patient now has active elbow flexion of the latissimus dorsi unit.

O’Ceallaigh S., Mehboob Ali K.S.A., O’Connor T.P.F
Burns, 31: 113-5, 2005

DELAYED DEATH IN BURNS AND THE ALLEGATIONS OF MEDICAL NEGLIGENCE

This paper from India reports that in that country there are many public-health problems related to burns, with many burn victims who survive the original trauma later developing infections and dying. The devitalization caused by burns leaves large raw areas that remain moist because of the outflow of serous exudate, and this exposed moist area, together with the dead and devitalized tissue, provides an optimal environment for the colonization and proliferation of micro-organisms. This is further aggravated by the depression of the immune response. These factors taken together (disruption of skin barrier, large cutaneous bacterial load, possibility of normal bacteri al flora becoming opportunistic pathogens, severe depression of immune system) contribute towards frequently fatal sepsis in burns victims. There have been many advances in infection control measures, early detection of micro-organisms, and newer, broader spectrum antibiotics, but the management of burn septicemia continues to be a challenge. Post-burn delayed death may also be due to pulmonary, cardiac, and other complications.

Sharma B.A.
Burns, 32: 269-75, 2006

SURGEONS AND SCARS: DIFFERENCES BETWEEN PATIENTS AND SURGEONS IN THE PERCEIVED REQUIREMENT FOR RECONSTRUCTIVE SURGERY FOLLOWING BURN INJURY

This paper from Australia considers the problems that a burns surgeon has to face in the reconstruction of burns patients. Eleven patients injured in the Bali bomb blast in October 2002 are considered. A customized assessment form was prepared in order to attempt to quantify the patients’ perceived need for reconstruction. The patients were invited to make a list of priorities of the injured areas they would like to consider for further surgery. The patients were then assessed by a consultant plastic and reconstructive surgeon and a senior trainee, who used the same assessment form. The surgeons were asked to make a list of priorities they would consider with regard to future surgery (from simple excision to free-flap surgery). It was found that all the patients were very reluctant to undergo further reconstruction while among the surgeons there was agreement on issues concerning function, but some discrepancies regarding aesthetic matters. The study draws attention to the need for secondary burns reconstruction to be a patient-driven service.

Rea S.M., Goodwin-Walters A., Wood F.M.
Burns, 32: 276-83 2006

DECOMPRESSION NOT ESCHAROTOMY IN ACUTE BURNS

Escharotomy has long been associated with acute-burns care. However, escharotomy is not always successfully performed, and the teaching of the procedure presents many diversities. This paper from Hong Kong proposes that there should be a fundamental change in the teaching of acute burns management and that the concept of decompression should be promoted. This proposal is justified by the results of a review using indexed, library, and web-based information sources and a review of patients transferred to a regional burns unit over a five-year period. This review showed that 37% of patients needing surgical decompression had not received appropriate treatment prior to transfer. Using the relevant compartmental anatomy a change in the surgical decompression of limbs is recommend ed in order to permit safer and more effective management.

Burns, 32: 284-92, 2006

CONTROL OF HYPERTROPHIC SCAR FROM INCEPTION BY USING XENOGENIC (PORCINE) ACELLULAR DERMAL MATRIX (ADM) TO COVER DEEP SECOND-DEGREE BURN

This paper from the People’s Republic of China describes seven years of investigating the method of applying acellular dermal matrix (ADM) on deep partial-thickness burn wound until the burn heals without dressing change. This method, which we call “Feng’s pig skin method”, appears to encourage speedy re-epithelialization with minimum scarring. Deep partial-thickness burn wounds were rinsed clean under anaesthesia when the patient was admitted. ADM was applied to the wound after the detached epidermis had been completely removed, wrapped, and fixed by sterile gauze and bandages. The dressing was removed within two weeks, by which time the wound had healed completely. All the wounds healed with one dressing within two weeks, and the time of wound re-epithelialization shortened to 7-12 days. There were no cases of scar hyperplasia and there was general amelioration compared with traditional treatment. The Scar Index was significantly lower than that found with the traditional exposure method. It is thus concluded that the technique of ADM to cover deep second-degree burns can preserve maximally residual dermal tissue and epithelium, help accelerate epithelium and stem cell regeneration, shorten healing time, and remodel skinstructure, consequently having the effect of controlling hypertrophic scars at their inception.

Feng X., Tan J., Pan Y., Wu Q., Ruan S., Shen R., Chen X., Du Y.
Burns, 32: 293-8, 2006
EXPERIMENTAL STUDY REGARDING CRYOPRESERVED HETEROGRRAFT TRANSPLANT

This report from Romania comes from the clinic that had the first system for human skin cryopreservation in that country. The results are presented of a research programme that used DNA microbial community profiling and characterization before and after the cryopreservation of heterografts. Further studies on contamination levels and not just the presence of contamination are still required in order to establish the possible beneficial effect of cryopreserving heterografts. Precise standards are necessary for the use of heterografts if favourable results are to be obtained.

Enescu D., Eftenie D., Botezatu D., Alexandru R., Gutău I., Ionita D.

EXPERIMENTAL STUDIES REGARDING MILLIMETRIC WAVE EFFECT ON CELL PROLIFERATION PROCESSES

This Romanian study, which is part of a research programme, emphasizes the favourable effect of millimetric waves on cell proliferation processes. This positive effect could be used to improve processes for obtaining complex biological structures as skin substitutes. This would be useful as the substitution of the complex structure of normal skin is a great challenge in various biological situations. Different methods are currently available and subject to constant proving.

Enescu D., Enescu M., Rusu D., Giuvelea S., Şerbanescu C., Gutău I.

PLACE DE L’ARGENT DANS LA PRISE EN CHARGE DES PLAIES (ROLE OF SILVER IN TAKING IN CHARGE OF WOUNDS)

The antiseptic properties of silver were known in antiquity - in ancient Greece, pieces of silver were frequently placed in water tanks to disinfect them, and in more modern times the use of silver in medicine has had an important place in the therapeutic arsenal. This French article reviews the history of the use of this precious metal in clinical practice until the modern epoch and describes current practice as regards the use of silver in burns treatment. Today, besides silver sulphadiazine, numerous silver-based bandages are used to treat burns as acute and chronic wounds.

Wassermann D., Thomas A.
Brûlures, 7: 8-12, 2006

NEOPTERIN AS A PROGNOSTIC MARKER IN BURNED PATIENTS

The capacity of serum neopterin to predict multi-organ failure and death in burn patients is still debated. This study from Egypt seeks to re-evaluate its role. Serum samples were collected from 29 burn patients on days 1, 3, and 7 post-burn and tested for neopterin. On the basis of survival or non-survival, the patients were divided into two groups in order to test neopterin as a prognostic marker. Detailed results are presented, on the basis of which it is concluded that there was no significant difference in plasma neopterin levels between survivors and non-survivors. However, non-survivors had a significantly high plasma neopterin delta change (p < 0.05) between day 3 and day 1 post-burn), a significance that increased when combined with the burn percentage (p < 0.01).

El-Shahat A., El-Shahat E.F.M.

PREDICTIVE FACTORS FOR DEVELOPMENT OF ACUTE RENAL FAILURE IN MAJOR BURNED PATIENTS

The purpose of this Egyptian study was to assess renal dysfunction in the three weeks following burn injury. The effect of burn size and septicaemia on the development of acute renal failure as also studied. Forty major burn patients were evaluated for renal efficiency for three weeks post-burn, with tests of serum creatinine, BUN, micro-albuminuria, urinary malonaldehyde, and fractional excretion of sodium. These tests were performed on days 0, 3, 7, 14, and 21 post-burn. Nine of the 40 patients experienced acute renal failure, diagnosed by rising serum creatinine and BUN and by rising markers of renal damage, such as micro-albinuria and urinary malonaldehyde. There was found to be a significant relation between burn size, septicaemia, and an increased incidence of acute renal failure.