

INTERNATIONAL ABSTRACTS

THE INFLUENCE OF PRE-EXISTING PSYCHIATRIC ILLNESS ON RECOVERY IN BURN INJURY PATIENTS: THE IMPACT OF PSYCHOSIS AND DEPRESSION

On the basis of the hypothesis that burn patients with a co-morbid psychiatric illness would have poorer outcomes in recovery from their injuries than patients with equivalent burn injuries but without pre-existing psychiatric illness, 190 consecutive admissions to a burns inpatient unit in Manchester, Great Britain, were screened for the existence of a formal pre-burn disorder. A secondary aim was to investigate the effect of self-inflicted burn injury. Nine patients suffering from psychosis and eight suffering from depression were matched with 18 and 15 patients, respectively, not presenting a pre-burn psychiatric disorder as regards gender, age, burn severity, type, depth, and location. Patients with a pre-burn diagnosis spent significantly more time in hospital and more time in care until discharged from outreach; also, their burn injuries took longer to heal than the matched burn injury patients without a pre-existing psychiatric illness. The time in hospital and until wound healing was greater in psychotic patients than in their controls but not between depressed patients and their matched controls. Both psychotic and depressed patients had significantly more surgery than their matched controls. Patients whose burns were self-inflicted spent significantly more time in hospital and their wounds took longer to heal. Patients with pre-existing psychiatric conditions, especially psychosis, as well as those with self-inflicted injuries presented difficulties in clinical management, with higher economic costs, although staff received very little specialist training in their management.

Tarrier N., Gregg L., Edwards J., Dunn K.
Burns, 31: 45-9, 2005

ONE-YEAR SURVEILLANCE OF LEGIONELLOSIS IN BURNED PATIENTS AND LEGIONELLA ENVIRONMENTAL MONITORING

Burn patients are at high risk of Legionella infection because burns compromise the immune system. Skin surfaces have no protective barriers, but bathing tank water is frequently used for washing and caring. A one-year surveillance was carried out in 65 burn patients in Italy by antibody determination and culture of bronchial aspirates. Environmental culturing for Legionella was performed in the patients' care areas every four months in the same period. Low titres (range, 8 to 32) were observed in 30 patients (46.1%), against 18 antigens including several Legionella species. No increase was seen in antibody titres in the sera of 191 patients. Respiratory culture samples were negative. *L. pneumophila* serogroups 4, 5, 6, and 8 and *L. rubrilucens* were isolated from 55.5% of water samples. There was no evidence of Legionella infection in patients included in this study, but it is suggested that to minimize the risk of legionellosis it would be advisable to improve burn patient hospital water supply control measures.

Franzin L., Stella M., Zaccaria T., Cabodi D., Castellani Pastoris M.
Burns, 31: 50-4, 2005

CALORIC REQUIREMENTS IN PATIENTS WITH NECROTIZING FASCIITIS

Patients suffering from necrotizing fasciitis (NF) and other soft tissue infections are frequently treated in burn centres owing to the extent of the wound care and surgical intervention required. Sepsis and surgery increase metabolic needs and may limit oral intake, necessitating total enteral or parenteral nutrition. This review from the USA considered the records of patients admitted with necrotizing fasciitis or surgical soft tissue infections between January 1993 and June 1998 who were subjected to indirect calorimetry (IC) measurement. Surgical/medical management and nutritional intervention records were also reviewed. NF presents a broad range of metabolic and surgical needs, and the data presented indicate that the patients considered had increased energy requirements, suggesting the need to provide calories at 124% basal or 25 kcal/kg actual wt/d. However, in the light of large individual variations, routine assessment using IC is recommended. Clinicians should recognize the probable need of nutritional support and these patients' possibly lengthy clinical course.

Graves C., Saffle J., Morris S., Stauffer T., Edelman L.
Burns, 31: 55-9, 2005.

EFFECTS OF GROWTH HORMONE ON ANTHROPOMETRIC MEASUREMENTS AND CARDIAC FUNCTION IN CHILDREN WITH THERMAL INJURY

In children, severe burns may cause growth delays, a persistent hypermetabolic response, and severe muscle catabolism and wasting, while growth hormone (GH) has been shown to decrease muscle wasting, improve net protein synthesis, and attenuate growth delays in burned children. In non-burned populations GH has recently been found to enhance cardiac performance and improve cardiac contractility and efficiency. It is not however yet known whether GH administration induces similar improvements in cardiac function in severely burned children. This study from Texas, USA, investigated whether administration of GH, initiated after hospital discharge (95% healed) and continued for one year post-burn, improved resting cardiac function in burned children. Two groups of severely burned children were randomized to receive either saline placebo (39 children) or 0.05 mg/kg per day of GH from discharge until 12 months post-burn (37 children). It was found that height, weight, lean body mass, and ejection fraction showed a significant increase with GH, indicating that severely burned children treated with long-term GH showed a significant improvement in left ventricular ejection fraction.

Mlcak R.P., Suman O.E., Murphy K., Herndon D.N.
Burns, 31: 60-66, 2005

COMPUTER-AIDED SURGICAL RECONSTRUCTION AFTER COMPLEX FACIAL BURN INJURIES - OPPORTUNITIES AND LIMITATIONS

This paper from Germany considers severe facial burn injuries with extensive destruction of anatomical structures, in which the cosmetic and

functional outcome of treatment is frequently unsatisfactory. Operative therapy is continuously being refined but the variety and proximity of structures in the facial region are still considered a major challenge in reconstructive surgery. The case is presented of a 16-yr-old patient with a severe facial burn. The planning of the reconstructive procedures was based on a multimodal approach employing data from computerized tomography imaging and surface laser scanning, which provided a three-dimensional visualization of the facial soft tissues. The amount and the pattern of structural loss could thus be determined more precisely than by inspection of two-dimensional imaging alone. The anatomical features to be reconstructed were projected onto the skin area of the prelaminate vertical rectus abdominis muscle flap selected to cover the defect. Prior to surgery, correction of the defects was simulated, superimposing the results of the virtual procedure on a three-dimensional head model of the patient. It was not however possible to ascertain in advance the flap's tissue elasticity and thickness, which was a limitation of the method.

Kovacs L., Zimmermann A., Wawrzyn H., Schwenzer K., Seitz H., Tille C., Papadopoulos N.A., Sader R., Zeilhofer H.F., Biemer E.
Burns, 31: 85-91, 2005

STRATEGIES AND STANDARDS FOR BURNS TREATMENT. CONSIDERATIONS REGARDING THE NATIONAL BURN CARE REVIEW COMMITTEE (NBCRC). REPORT

This Romanian paper presents an evaluation of a report prepared by the National Burn Care Review Committee - set up in Great Britain in 1998 - whose purpose is to formulate sets of recommendations for the organization and practice of burns treatment in that country after carrying out a comparison of various centres involved in burns treatment. An analysis of their results and experience is presented and a comparison is made with the situation in Romania, with reference to key elements that are required.

Enescu M., Lascar I., Enescu D., Ungureanu M., Constantinescu M.
Ann. Plast. Surg. and Reconstr. Microsurg., 1: 31-43, 2006

OUR EXPERIENCE IN CRYOPRESERVATION OVER A SEVEN-YEAR PERIOD

The authors of this paper from Romania describe their experience in the last seven years with the cryopreservation of human skin and methods of perfecting this technique. Some important moments and the changes that occurred in Romania during this period are described with reference to the therapeutic resources available for extensive burns. It is concluded that the development of reliable methods for the cryopreservation of viable skin grafts is important for the capacity to create skin banks for the ready supply of skin grafts.

Enescu D., Enescu M., Giuvelea S., Alexandru R., Chiruta I., Ionița D.
Ann. Plast. Surg. and Reconstr. Microsurg., 1: 44-49, 2006

TEMPORARY SKIN COVERING FOR PAEDIATRIC BURNS

Temporary skin covering methods represent a crucial aspect of the treatment of extensive burns. This paper from Romania reports on the clinical experience acquired in a large number of paediatric burns (600-700 cases annually) treated with the use of various natural temporary skin covering methods. The advantages and disadvantages of the various techniques available are presented.

Enescu D., Giuvelea S., Alexandru R., Șerbanescu C., Nedelcu I., Constantinescu G.
Ann. Plast. Surg. and Reconstr. Microsurg., 1: 50-5, 2006

HIGH-VOLTAGE ELECTRICAL INJURIES

This paper from the Czech Republic reports on the 41 patients hospitalized in the Brno University Hospital Burn Centre suffering from high-voltage electrical injuries in the period between 1999 and 2005. These patients constituted just over 6% of the total number of patients treated in the Burn Intensive Care Unit for extensive burn trauma. The average age of patients with serious electrotraumas was 27.29 yr (range, 9 to 64 yr) and the mortality rate was 17.07%. It is clear from the paper that such accidents do not only affect professional electricians - a disturbingly large number of high-voltage electrical injuries occur outside the work context, in the vicinity of railway tracks, affecting children in particular. It is stressed that more attention should be paid to the prevention of such accidents, especially among schoolchildren.

Kaloudová Y., Štín P., Řihová H., Brychta P., Suchánek I., Martinová A.
Acta Chirurgiae Plasticae, 48: 119-22, 2006

PHYSIOLOGY AND PATHOLOGY OF SKIN AFTER BURNS AND DERANGEMENT OF GENE EXPRESSION

Temperature and time are two basic factors that influence the effect of heat on the human organism. The degree of the resulting damage also depends on the anatomical organization of the skin and hypodermis. Sweat glands and the vascular supply act as effective thermoregulators for the deeper structures. Under each fully developed necrosis is a problematic transient area, which is also known as a zone of blood stasis, corresponding to the partial damage caused by heat conducted into deeper structures. During the first three days post-burn cells in this area are selected according to their resistance to the thermal trauma. The various mechanisms triggered by the burn trauma are considered, also with reference to genetic expression. The various factors that influence the course of healing are listed, and a section is devoted to keloids and hypertrophic scars.

Bláha J.
Acta Chirurgiae Plasticae, 48: 127-32, 2006