

INTERNATIONAL ABSTRACTS

EXTRACORPOREAL SHOCK WAVES, A NEW NON-SURGICAL METHOD TO TREAT SEVERE BURNS

In deep partial/full-thickness burns, extracorporeal shock wave treatment (ESWT) is a new, non-invasive, and cost-effective method for increasing perfusion in ischaemic tissues, stimulating growth factors, decreasing inflammation, and accelerating wound healing. This safe and feasible technique is classically used in urology and orthopaedic surgery with success, but so far there have been few reports on its use in burns management. This Spanish study considers the use of ESWT in deep partial/full thickness burns. Two ESWT sessions were performed in 15 patients with <5% total body surface area deep partial/full thickness burns, on days 3 and 5 post-burn, using laser Doppler imaging (LDI) to measure burn depth. It was found that 80% of all treated burns healed uneventfully prior to 3 weeks, that 15% required surgical debridement and grafting, and that 5% developed hypertrophic scarring. Burns showed a significant increase in perfusion, objectivated by the LDI images after one ESW session. ESWT was therefore confirmed as a positive approach in deep partial/full thickness burns as it may decrease the need of surgery and therefore patient morbidity. There is urgent need for further studies to establish the optimal timing and dosage of treatment.

Arnò A, Garcia O, Hernán I, Sancho J, Acosta A, Barret JP
Burns, 36: 844-9, 2010

THE SEVERE BURNS PATIENT WITH TRACHEOSTOMY: IMPLICATIONS FOR MANAGEMENT OF DYSPHAGIA, DYSPHONIA, AND LARYNGOTRACHEAL PATHOLOGY

The purpose of this paper was to study the risk of dysphagia, dysphonia, and laryngotracheal pathology in severe burn patients subjected to tracheostomy and decannulation, an aspect not dealt with before with regard to the population of Germany, where the study was carried out. The results of eight years of treatment (2000-2007) were considered, during which period 26 burn patients underwent tracheostomy. The unwelcome consequences observed in 12 of the 26 cases are described in detail, namely laryngeal granulation tissue (2 cases), tracheal granulation tissue (2), supraglottic oedema and erythema (2), and reduced vocal mobility (6). It is concluded that long-term tracheostomy is likely to increase the time required before oral intake can be resumed and patients can return to their pre-morbid oral diet, since dysphagia, dysphonia, and laryngotracheal pathology are not uncommon consequences.

Clayton N, Kennedy P, Maitz
Burns, 36: 850-5, 2010

PERI-OPERATIVE USE OF CUFFED ENDOTRACHEAL TUBES IS ADVANTAGEOUS IN YOUNG PAEDIATRIC BURN PATIENTS

In the past it was normal practice to prefer the use of uncuffed endotracheal tubes rather than cuffed endotracheal tubes. In the light of recent findings the opposite may be true. The authors of this American study reviewed adverse events secondary to the use of cuffed and uncuffed endotracheal tubes over a 10-yr period, examining cases of operating-room endotracheal intubation for general anaesthesia in burned children up to the age of ten years. It was found that children receiving uncuffed tubes were more likely to have a clinically significant loss of tidal volume and to need immediate reintubation in order to change tube size or type. Our data suggest that in such patients the use in the operating room of uncuffed endotracheal tubes is associated with an increase in the rate of tidal volume loss and in the need of reintubation. In view of the frequent problems presented in airway management by such patients it would appear to be important to use cuffed endotracheal tubes because of the lower rate of airway manipulation.

Dorsey DP, Bowman SM, Klein MB, Archer D, Sharar SR
Burns, 36: 856-60, 2010

BURNS CAUSED BY ALCOHOL-BASED FIRES IN THE HOUSEHOLD COAL STOVE IN ANHUI PROVINCE, CHINA

In some parts of China peasants continue to use industrial alcohol to light special briquettes in their household coal stoves. As alcohol is frequently poured into the stove to revive the flame, not infrequently flame burns occur. This retrospective review from China considers such cases of patients treated in the Annu Medical University Hospital Burn Centre in the period 1998-2007. Altogether 180 children were included in the study. It was found that the persons at highest risk for this type of burn were boys and housewives. Details are provided regarding the types of burns sustained and their location, as also of the time of day when the accidents happened. Clearly such burns can be prevented and educational action is necessary.

Chen X-L, Guo F, Liang X, Wang F, Wang Y-J, Sun Y-X
Burns, 36: 861-70, 2010

PROCUTASE® VERSUS 1% SILVER SULPHADIAZINE IN THE TREATMENT OF MINOR BURNS

A randomized comparative study was conducted in Italy with the purpose of comparing the use of silver sulphadiazine 1% cream with the use of Procutase® in the treatment of burns (<10% TBSA)

not exceeding second degree and therefore treatable on an out-patient basis. Healing time, pain score during dressing changes, compliance with therapy, and complication rate were considered. It was found that patients treated with Procutase®, which is an ionic hydrogel composed of natural hydrophilic polymers, caused statistically significant less pain and led to shorter healing times. Procutase® can therefore be used successfully in burn patients who can be treated on an out-patient basis.

Grippaudo FR, Carini L, Baldini R
Burns, 36: 871-5, 2010

DRIED IRRADIATED HUMAN AMNIOTIC MEMBRANE AS A BIOLOGICAL DRESSING FOR FACIAL BURNS - A 7-YEAR CASE SERIES

This study from Malaysia examines seven years' work on the use of dried irradiated human amnion in the treatment of facial burns. Human amnion has been used for many years as a temporary biological dressing in partial-thickness burns because of its various advantages: pain relief, ease of use, prevention of infection, and accelerated wound healing. The demographic details taken into account were age, gender, total facial surface area burned, type of burn, and cause of injury, while the effectiveness of treatment was evaluated on the basis of the wound infection rate, frequency of dressing changes, healing time, and scar sequelae. The study covered 33 patients (average age, 16.5 yr; age range, 8 months to 64 yr). The causes included scalding, contact burning, and flash burning, while the mean percentage of total facial surface area burned was 2.7%. No patient developed facial wound infection and 85% needed only one application of dried amnion. The average healing time was 5.4 days (range, 2-14 days). Thirteen patients (39%) had burns in the facial area only and three of these were discharged and treated as out-patients. On long-term follow-up, it was found that there were two hypopigmented scars, one hyperpigmented scar, and one hypertrophic scar. It is concluded that superficial partial-thickness facial burns can be treated successfully with dried irradiated human amnion membrane.

Bujang-Safawi E, Halim AS, Khoo TL, Dorai AA
Burns, 36: 876-82, 2010

TREATMENT OF PARTIAL-THICKNESS SCALDS BY SKIN XENOGRAFTS - A RETROSPECTIVE STUDY OF 109 CASES IN A THREE-YEAR STUDY

The authors' purpose in writing this paper was to confirm the clinical advantages of using porcine skin xenograft in the treatment of partial-thickness scald burns. The study, conducted in the Slovak Republic between 2005 and 2007, considered 109 patients (mean age, 7.6 yr; mean total body surface area burned, 13%) admitted with partial-thickness scald burns and treated with skin xenografts. The following parameters were considered: mean healing time of patients (before and after day 14 post-burn), mean hospital stay, and number of patients subjected to surgery. A complete report is presented of the results, on the basis of which it is concluded that skin xenografts are clinically efficient in the treatment of partial-thickness skin burns, showing good adherence to the wound surface, a decrease in exudate, and reduced pain. Hypertrophic scar formation was found to be less likely when the burn wounds healed in less than 14 days.

Bukovčan P, Koller J
Acta Chirurgiae Plasticae, 52: 7-12, 2010

THE IMPORTANCE OF A MULTIDISCIPLINARY APPROACH IN THE TREATMENT OF MUTILATING ELECTRICAL INJURY: A CASE STUDY

Burns caused by electric current are not the most frequent type but their potential damage is devastating as they may cause lifelong stigmatization. The most frequently affected persons are young males who suffer injury at work. This case study from the Czech Republic describes the electrical injury suffered by a young man who came into contact with a high-voltage line (22,000 volts) when paragliding. The patient also suffered a 10-metre fall. The need in such cases of multi-disciplinary cooperation is presented and the problems and risks attending the treatment of the patients' injuries are described.

Lipový B, Řihová H, Kaloudová Y, Suchánek I, Gregorová N, Hokynková A, Jelinková Z, Agalarev V
Acta Chirurgiae Plasticae, 52: 61-4, 2010

PRINCIPLES OF BURN RECONSTRUCTION

The prevention of scar sequelae is today probably the biggest unsolved problem in relation to morbidity associated with burn injury, and medical and surgical treatment in this field still has a long way to go. Reconstructive surgery is just one step on the way to the rehabilitation of severe burn patients but it cannot be successful unless many factors are taken into account. These include physiotherapy, compression garments, and dermatology. The victim of burns requires the care of a team of surgeons, psychiatrists, psychologists, physiotherapists, and occupational therapists. The successive steps of treatment have to be carefully planned and discussed, also with the patients. Psychological problems should be prevented: they are easier to avoid than to resolve once they occur. A multidisciplinary approach is imperative. The role of the plastic surgeon is central to all these considerations.

Costagliola M
Ann Plast Surg and Reconstr Microsurg, 4: 47-55, 2010

BURNET PROJECT - TELEMEDICINE IN PLANNING AND MANAGEMENT IN FIRE AND BURNS DISASTERS

The main goal of the Burnet Project, which was created seven years ago, is to improve the medical skills required in the event of fire and burns disasters. The system that has been developed depends on the use of the Internet. The Burnet web portal www.burnet.org is the most complete interactive tool in the field of scientific studies, treatment, and prevention and it constitutes an inexpensive, accessible and concrete instrument for doctors to take part in discussion groups, use scientific libraries, and have access to updated reference information regarding meetings, congresses, and scientific innovations. Today 17 burn centres in the Euro-Mediterranean area are linked in this Project.

Masellis A
Ann Plast Surg and Reconstr Microsurg, 4: 56-64, 2010