INTERNATIONAL ABSTRACTS

BURNS AREA ESTIMATION - AN ERROR PERPETUATED

To estimate small burn areas, the usual teaching is that the patient's palm is 1% of body surface area. It has never been very clear whether this means the palm surface of the whole hand or the palm excluding the fingers. This is a source of confusion to many junior doctors. The Advanced Trauma Life Support student manual has been in contradiction to evidence from the literature and this paper from Gt Britain examines the issue. The results of the survey that was conducted highlighted the confusion on the topic and the need to educate junior doctors.

Jose R.M., Roy D.K., Vidyadharan R., Erdmann M.
Burns, 30: 481-2, 2004

CHANGES IN VEGF AND NITRIC OXIDE AFTER DEEP DERMAL INJURY IN THE FEMALE, RED DUROC PIG - FURTHER SIMILARITIES BETWEEN FEMALE, DUROC SCAR, AND HUMAN HYPERTROPHIC SCAR

In spite of many years of research, no one fully understands human hypertrophic scarring, and a reliable animal model could significantly increase our understanding. This paper from the USA confirms similarities between scarring in the female, red, Duroc pig and human hypertrophic scarring. This study aimed: a) to measure vascular endothelial growth factor (VEGF) and nitric oxide (NO) levels in wounds on the female Duroc; and b) to compare the NO levels to those reported for human hypertrophic scar. Shallow and deep wounds were created on four female Durocs. VEGF levels were measured using ELISA and NO levels with the Griess reagent. VEGF and NO levels were increased in deep wounds at 10 days when compared to shallow wounds. At 15 weeks VEGF and NO levels had returned to the level of shallow wounds. VEGF and NO exhibited two distinctly different temporal patterns in shallow and deep wounds on female Durocs. Also, NO decreased in female, Duroc scar as in human hypertrophic scar, thus further validating the model's utility.

Zhu K.Q., Engrav L.H., Aimendariz R., Muangman P., Klein M.B., Carrougher G.J., Deubner H., Gibran N.S.
Burns, 31: 5-10, 2005

PRESSURE GARMENTS FOR USE IN THE TREATMENT OF HYPERTROPHIC SCARS - AN EVALUATION OF CURRENT CONSTRUCTION TECHNIQUES IN NHS HOSPITALS

The aim of this piece of research from Scotland was to investigate the variety of pressure garment construction methods and materials used in UK hospitals. The investigation was conducted in two parts. First, a survey of pressure garment practitioners was conducted and, second, 15 of the fabrics currently used in UK hospitals were tested. The results showed that the pressures exerted by pressure garments constructed in the UK were likely to range from ineffectively low to dangerously high.

Macintyre L., Baird M.
Burns, 31: 11-14, 2005

ERBIUM:YAG LASER TREATMENT OF POST-BURN SCARS: POTENTIALS AND LIMITATIONS

Erbium:YAG lasers are used with success to treat a variety of epidermal and dermal lesions, including rhytides, dyschromias, and certain types of scar. However, no report has yet focused on experiences with this laser in reconstructive burn surgery. Since 2001 the Erbium:YAG laser has become an integral part of the treatment of post-burn scars at the Berlin Burn Centre in Germany. This paper describes the techniques applied and the clinical experiences obtained. In addition, a new stripe technique has been introduced, which avoids healing disturbances in scars following deep burns. In conclusion, the Erbium:YAG laser proved to be a valuable supplementary tool for the improvement of cosmetically disturbing mild scars. It is particularly handy in areas that are difficult to treat, such as the eyes, nose, lips, and fingers. The individual advantages of the Erbium:YAG laser, other laser systems, and dermabrasion for the treatment of burn scars are compared in a brief survey.

Eberlein A., Schepler H., Spilker G., Altmeyer P., Hartmann B.
Burns, 31: 15-24, 2005

THE VIENNESE CULTURE METHOD: CULTURED HUMAN EPITHELIUM OBTAINED ON A DERMAL MATRIX BASED ON FIBROBLAST CONTAINING FIBRIN GLUE GELS

The purpose of this study from Austria was to develop a new keratinocyte culture system on a dermal equivalent suitable for skin wound closure. The dermal matrix was based on a fibrin glue gel containing live human fibroblast (from human foreskin). Keratinocytes obtained from primary culture by the Rheinwald and Green method were seeded onto the gel. In all cases, the keratinocytes plated on the dermal equivalent grew in confluence, and stratified epithelium was obtained. After 10 days an irregular multilayer could be observed. The cells showed active interaction with the fibrin support, presenting as cell formations projecting into the matrix. After 15 days a regular epithelial sheet consisting of three to four layers of cells was formed, while the last time point (20 days) showed signs of disintegration of the epithelial sheet. It was concluded that 15 days of culture were optimal for the generation of keratinocyte layers with signs of differentiation. This new culture system could be an important step forward in covering severely burned patients.

Kamolz L.P., Luegmair M., Wick N., Eisenbock B., Burjak S., Koller R., Meissl G., Frey M.
Burns, 31: 25-9, 2005.

GENDER INFLUENCES ON BURN OUTCOMES IN THE ELDERLY

Women aged 65 and over now suffer a larger number of injuries requiring hospitalization than young men. The purpose of this study from the USA was to evaluate gender differences in the outcome and disposition of elderly burn patients. A comparison was made of demographic, aetiological, and outcome differences between male and female patients 65 years of age and older treated for acute burns during a 5-yr period. Women accounted for 33% of burns occurring in this group; their burns tended to be smaller than men's (12.0% versus 17.2% TBSA) ($p = 0.20$) and less severe (3.6% versus 9.7% 3rd TBSA) ($p < 0.05$). Although this was not significant, elderly women, who were less likely to be married, tended to stay in hospital longer and were significantly less likely to be discharged home than men. Elderly burn patients, particularly women, utilized more resources than younger patients. Further research on the social and economic resources available to the elderly burn population, particularly women, is warranted in order to provide cost-effective quality care during acute hospitalization and on discharge.

Chang E.J., Edelman E.S., Morris S.E., Saffle J.R.
Burns, 31: 31-5, 2005

THE STIGMA OF BURNS - PERCEPTIONS OF BURNED PATIENTS' RELATIVES WHEN FACING DISCHARGE FROM HOSPITAL

The aim of this ethnographic study from Brazil was to consider the cultural reactions reported by 25 relatives of burned patients regarding their loved one's impending hospital discharge. Data were gathered by means of participant observation and semi-structured interviews during hospital visiting hours and in support group meetings with relatives. The following interrelated phases were considered in the analysis process: reading of the material and data reduction, data display, conclusion outlining, and verification. After this process, the data were coded and similar codes were grouped into categories. It was found that the relatives of burned patients were afraid when faced with the prospect of hospital discharge. Their descriptions reveal the family feelings and attitudes in the face of other people's reactions and in the face of the patients' own reactions in the context of possible changes in their social roles.

Rossi L.A., Vila V. da S.C., Zago M.M.F. Ferreira E.
Burns, 31: 37-44, 2005

BURN INJURY IN SENIOR CITIZENS OVER 75 YEARS OF AGE

This retrospective study from the Czech Republic analyses a group of 67 senior citizens over 75 years of age (male and female) hospitalized in 1999-2003. The following aspects were considered: age, most common causes of burn injuries, mechanisms of burn injuries, average extent of burn injuries, and most commonly burned body parts. Other factors reviewed were the seriousness of the burn injury, complications of treatment, and final therapeutic outcome. The importance of a specific approach and individual therapeutic strategy is emphasized. It is also emphasized that it is necessary to adopt a complex therapy approach owing to the secondary diseases that are so common in this age group. The goals of therapy are full recovery and the return of the patient to normal life. However, even if these goals and therapeutic results are determined and limited by the above-mentioned factors, every therapeutic success, although partial, should be perceived as positive. For the patients, every success from the point of view of the ability to take care of themselves and the overall quality of life is fundamental.

Klosová H., Tymonová J., Adámková M.
Acta Chirurgiae Plasticae, 47: 21-3, 2005

FIRST EXPERIENCE WITH THE USE OF VACUUM ASSISTED CLOSURE IN THE TREATMENT OF SKIN DEFECTS AT THE BURN CENTRE

Morykwas and Argenta developed Vacuum Assisted Closure (VAC®) in the early 1990s for the treatment of tissue detects. In 2004, for the first time at the authors' workplace in the Czech Republic, this method was used in the treatment of six patients, aged between 54 and 91 yr. Two of the patients were treated for a varicose ulcer on a lower extremity, two for loss of skin after an inflammation secondary to infection, one high-risk patient for deep burns, and one for a deep defect caused by inappropriate medical care. An improvement in blood circulation was seen in all six patients, which permitted an early dermo-epidermal graft.

Adámkova M., Tymonová J., Zámečníková I., Kadlčík M., Klosová H.
Acta Chirurgiae Plasticae, 47: 24-7, 2005

CONTINUOUS ELIMINATION METHODS IN BURN PATIENTS FROM THE POINT OF VIEW OF A NURSE

Continuous elimination methods are part of the complex therapeutic methods used in critically ill patients suffering from burn injuries. The authors of this paper from the Czech Republic have been using CVVH (continual veno-venous haemofiltration) since 1995 in burn patients who present with systemic inflammatory syndrome, multi-organ dysfunction, or multi-organ failure. From 1995 to 2001, elimination was performed under the supervision of an intensive care unit nephrologist, but in recent years CVVH has been provided independently. A nurse places sets in the device, flushes the sets with saline with heparin, and then drains this off into a collecting bag. The entire process is described in detail. During the whole procedure the patients are clinically observed, and changes in their status are noted in a shock record and elimination protocol. Since 1995, 60 eliminations have been performed, occupying a total time of 7,400 hours. The work is very demanding and interesting, and the patient's status improves significantly.

Hurníková M., Dostálová D.
Acta Chirurgiae Plasticae, 47: 55-7, 2005