Abstract 48 Self-harm emergencies after major burn injury: A population-based analysis

Stephanie A Mason
saamason@gmail.com

Stephanie A Mason, Avery B Nathens, Alejandro Gonzalez, Paul J Karanicolas, Rob Fowler, Marc G Jeschke
Ross Tilley Burn Centre
Sunnybrook Health Sciences Centre
Institute for Clinical and Evaluative Sciences
Canada

Background
Mental health disorders are prevalent both before and after burn injury. How burn injury alters the risk of self-harm is unknown.

Methods
A self-matched longitudinal cohort study was performed on all patients admitted for major burn injury between 2003-2011. Data were derived from linked population-based administrative databases. All visits to an emergency department or crisis centre with an ICD-10 diagnosis code indicating intentional self-harm were identified (X61-X84). Suicide deaths were also considered events. Poisson generalized estimating equations were used to estimate rate ratios comparing the 3 years after injury to the 3 years before. Stratified analyses were conducted for relevant patient subgroups.

Results
We identified 1,958 patients with major burn injury. Self-harm emergencies increased from 1.5 per 1000 patient years before injury to 3.1 per 1000 patient years after injury, yielding a rate ratio of 1.96 (95% CI, 1.15-3.33). The risk of self-harm was greatest among females (RR 2.26, 95%CI 1.29-3.96), patients aged 45-64 years (RR 2.07, 95% CI 1.14-3.77), patients from the highest two income quintiles (RR 3.20, 95% CI 1.17-8.74), and those with flame burns (RR 1.95, 95% CI 1.09-3.47). No differences were observed in the relative rate of self-harm by % total body surface area burned.

Conclusions
Self-harm risk increases significantly following major burn injury, underscoring the need for screening during follow-up.
Abstract 63 Virtual reality distraction for procedural pain and anxiety in young children with burn injuries: A pilot study

Sylvie Le May
sylvie.lemay@umontreal.ca

Sylvie Le May, Christelle Khadra, David Paquin, Jean-Simon Fortin, Stéphane Bouchard, Lucie Farmer, Edith Villeneuve, Hunter Hoffman, Isabelle Perreault
CHU Sainte-Justine, University of Montreal
University of Montreal, CHU St. Justine
Université du Québec en Abitibi-Témiscamingue (UQAT)
CHU St. Justine
Université du Québec en Outaouais (UQO)
CHU St. Justine, University of Montreal
University of Seattle, Washington

Canada

Wound debridement (using hydrotherapy) is the most painful procedure associated with treatment of burn injuries. Use of analgesics does not always provide optimal relief and generates several side effects. Virtual reality (VR) is a method of active distraction that offers the child a multi-sensory immersive interaction. However, very few studies have used VR for procedural pain and anxiety in young children with burn injuries. The aims of this study are to assess the feasibility and applicability of a virtual reality prototype in the hydrotherapy room combined with analgesics for the relief of procedural pain and anxiety in children with burn injuries as well as to assess satisfaction of healthcare professionals.

Pilot quasi experimental study design in progress. Children from 3 months to 10 years old with burn injuries requiring hydrotherapy are included. Pain is assessed using the FLACC (0-10) and anxiety is measured with PBCL (Pain Behavioral Check List) (8-40). Satisfaction of healthcare professionals is also assessed (0-32).

Five patients recruited so far. Mean age is 3.7 ± 4.7 y. All thermal burn injuries. FLACC mean (SD) scores before, during and after the procedure were respectively: 1.3 (SD 1.5), 3.7 (SD 3.1), 1.3 (SD 2.3). PBCL mean (SD) scores was 12.2 (SD 5.3) during procedure. Mean (SD) of Satisfaction was 29.1 (SD 4.4).

Further data will provide information on feasibility of VR. So far, positive results were obtained by using VR during wound debridement. We believe that VR will provide a less painful and traumatizing experience for these children.
Abstract 19 Burn patients’ quality of life in British Columbia

Anthony Papp
anthony.papp@gmail.com

Anthony Papp, Meriel Anderson
BC Professional Firefighters’ Burn Unit
Alder University
Canada

Introduction: Burn patients’ quality of life has not been investigated before in British Columbia.

Aim: To identify the fundamental barriers and facilitators to recovery and reintegration back into work and society among burn survivors.

Materials and Methods: In Phase1 a semi-structured interview was conducted to 5 burn survivors. Existing validated burn quality of life questionnaires were assessed to provide information that they wish the questionnaires would cover, but didn’t. The information was used to steer the direction of a new modified questionnaire and provide the context for shaping the information. In Phase2 questionnaires, including the BSHS-B and SF36, were sent to 1365 burn survivors.

Results. The response rate was 8.4%. The mean time since injury was 5.7 years, TBSA 14.54%, age 47.99 years and BAUX score 62.53. Most patients were Caucasian, male (72.2%), without inhalation injury and with a burn caused by fire. Increasing TBSA had a negative effect on hand function, heat sensitivity, BSHS treatment regimen and work scores. Increasing age negatively effected emotional, pressure garment and social scores. Increasing length of stay effected negatively on hand function, body image, heat sensitivity and work scores. ICU stay affected work and relationship issues. Burns requiring surgical intervention lead to worse body image, decreased heat sensitivity, more problems with treatment regimens and more challenges with pressure garments. Surgery for different anatomical areas had different effects on various scores.

Conclusion: Burn injury has several long term quality of life consequences. Attention needs to be paid for targeted prevention.
Abstract 45 Chemical Injuries: A New Vision

Carlos Alberto Yoshimura
bayos@uol.com.br

Carlos Alberto Yoshimura
SAMU (Service Assistance Medicale d’Urgence) - Emergency medical service
Brazil

Introduction: Burns with chemicals is of growing concern in our day-to-day life, with higher incidence in industrial environments.

Aim: The demonstration of the benefits of skin decontamination with an active amphoteric polyvalent solution, in comparison with passive decontamination with 0.9% saline solution or water, in contact with the vast majority of chemical products.

Method: Presentation of illustrative case reports and their technical-scientific reasoning.

Results: Based on in vitro, in vivo and ex vivo studies and demonstrated by representative case reports, the active decontamination solution, Diphoterine® solution was more efficient than passive decontamination solutions (0.9% physiologic saline or water) for either preventing or decreasing the severity of chemical splash burns.

Conclusion: Based on available data, Diphoterine® solution should be considered for initial decontamination of skin splashes of chemical products, breaking a paradigm in relation to water use, in chemical emergencies.

Key Words: Chemical injuries, Decontamination, Amphoteric Compounds, Diphoterine® solution