

A Retrospective Study of Pain Management in Burns Patients admitted to the Emergency Department at Rashid Hospital, Dubai, UAE.

Joanna Ciolpan¹, Abubakr M Hussain²

¹The Alfred Hospital, Melbourne, Victoria, Australia, ²St James University Hospital, Leeds, West Yorkshire, United Kingdom

Purpose

Dubai has experienced dramatic structural and economic growth in the last decade. The immense construction work has led to an increase in the number of work-related injuries. Amongst road traffic accidents and construction injuries, burn injuries are also becoming a major cause of admissions at Rashid Hospital, the leading emergency medicine and trauma centre in Dubai.

Prioritising and achieving effective pain relief for burns' patients should be at the top of every clinician's goal. Studies have shown that in the acute phase, burn pain is caused by tissue damage in the affected area, which causes an intense stimulation of nociceptive fibres resulting in very severe and unrelenting pain.(1) In addition, burn pain stimuli can induce a neurohormonal stress response leading to a hypercatabolic state, impairing the healing process. Furthermore, inadequate pain management during the acute phase has been linked with the development of post traumatic stress disorder (PTSD) and long term behavioral problems in victims.(2,3) Despite this however effective burn pain management continues to be a challenging area with some studies showing that as much as half of all burns patients receive no analgesia in the Emergency Department (ED).(4)

Our aim was to assess the pain management as well as general resuscitation of patients admitted with significant burn injuries at Rashid Hospital in Dubai. We aimed to hopefully provide recommendations aimed at improving patient care. To our knowledge, this is the first audit of its kind to be performed at Rashid Hospital.

Method

We retrospectively analysed patient case notes for all patients treated in the Emergency Department (Rashid Hospital and Trauma centre, Dubai) admitted between 1st December 2007 and 31st January 2008. All patients presenting with major burns and who were subsequently admitted as inpatients were included (n=16). Epidemiological and clinical data was recorded, and emergency department notes were studied retrospectively for information regarding analgesia administered, documented pain scores as well as general resuscitation care. Comparison was made with internationally recognised guidelines released by New South Wales Department of Health, in 2006.

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(2) Courtemanche DJ, Robinow O. Recognition and treatment of the post traumatic stress disorder in the burn victim. J Burn Care Rehabil 1989; 10: 247-50.

(3) Ptacek J T, Patterson D R, Montgomery B K, et al. Pain, coping, and adjustment in patients with burns: preliminary findings from a prospective study., Journal of Pain and Symptom Management, August 1995.10(6), 446-55,

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Results

The majority of patients admitted with burn injuries were aged between 16 to 35, with the majority being male Indian subcontinent construction workers. The mean percentage of burns was 18.8% (range 1.75% to 45%). Flame burns were most common with facial (50%) and lower limb burns (69%) being the most common sites affected.

94% (15/16) of patients had the total body surface area assessed but no formal assessment tool had been used to document these injuries. 69% (11/16) of patients had a detailed history taken with details regarding the mechanism of injury and type of burn documented.

81 % (13/16) of patients had a pain score documented soon after presenting in the Emergency Department but none thereafter. Pain scores ranged from 4 to 10 on admission (mean 8.3) suggesting moderate to severe pain. 94% (15/16) of patients received some form of analgesia of which 75% (12/16) had intravenous morphine administered in the ED. 60% of patients who received intravenous morphine received no more than 10mg. Morphine doses ranged from 7mg to 25 mg.

25% (4/16) of patients were also treated with NSAID'S (Non-Steroidal Anti-Inflammatory Drugs). Diclofenac was the drug of choice for 75% of these patients. Of the patients who received Diclofenac, only 1 received it as an adjunct to morphine.

Data analysis showed that pain relief was not titrated against pain scores; moreover it seemed to be administered according to the percentage of burn. 75% of patients received intravenous fluids but no formal assessment tool was noted (e.g. parkland formula). Sulfadiazine was used to cleanse all wounds. 88% of patients with facial burns had MEBO topical cream applied to the affected area. 69% of patients received tetanus immunizations.

Conclusions

Although analgesia is being provided for most patients admitted with burns; pain relief still remains an area of significant improvement. Pain scores should be obtained at regular short intervals for all patients admitted with major burns and analgesia should be titrated accordingly. Good documentation in all areas specifically in pain assessment and management is vital in order to optimise patient care. The use of formal burn assessment tools and proformas will help improve documentation, pain relief and thus ultimately patient care.