30 A Retrospective Review of Outpatient Pain Management in the Burn Injured Population

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Introduction: Burn injuries and their associated treatments are exquisitely painful and often require hospitalization to achieve adequate pain control. Hospitalized patients have their pain managed aggressively, with rigorous monitoring. However, once patients are discharged from the hospital, the assessment of ongoing pain management becomes more difficult. The purpose of this study was to examine our current practices in the outpatient setting regarding pain management.
Methods: This was a retrospective review of patients treated in the outpatient burn clinic following discharge home from the burn center over a one-year period. Patients with a significant history of premorbid pain and those discharged initially to a post-acute facility were excluded. Patients were stratified into those requiring opioids ≤ 4 weeks/ > 4 weeks, autografting/no autografting, opioids required following 95% wound closure/not required and those with and without a history of significant substance abuse.
Results: There were 206 evaluable patients in this study. The mean number of days to healing was 19.5 days. The mean percent total body surface area injured was 5% yielding a mean number of days to healing per percent total body surface area burn of 4. Overall, narcotic pain medications were discontinued 8 days prior to wound closure. The majority of patients, 83% (n=170) had their narcotic pain medications discontinued before 95% wound closure was achieved; 17% (n=36) number of patients had their narcotic pain medications continued beyond wound healing. Subgroup analysis revealed the following findings. Patients who were on narcotic pain medication > four weeks following the time of injury (n=37) had a mean duration of narcotic pain therapy of 57 days compared to 11 days in patients who received ≤ four weeks (n=169, $p < .00001$). Likewise, patients who were grafted had a longer narcotic pain duration, 28 days vs 12 days in patients who were not grafted ($p < .00001$). Finally, the presence of previous or current substance abuse appeared to have no impact on the duration of narcotic therapy 19. 8 days vs 19.3 days.
Conclusions: Most patients followed in the burn outpatient clinic demonstrated cessation of narcotic analgesic use around the same time as burn wound closure. Factors tending to extend the duration of narcotic use included longer inpatient narcotic use, and the necessity of skin grafting for burn wound management. Interestingly, previous substance abuse history did not influence length of post-hospital narcotic use.

31 Regional Anesthesia for Reducing Postoperative Opioid Use in Split Thickness Skin Grafting

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Introduction: Split thickness skin grafting is ubiquitous in the management of acute burns and burn reconstruction. Patients describe the resulting partial-thickness donor site wound as one of the most painful aspects of burn care. Managing donor site pain is challenging and frequently involves potent opioid regimens. Rapid reepithelization of the donor site makes long-acting local and regional anesthesia an attractive option for reducing opioid use. This study aims to determine the efficacy of graft donor site regional anesthesia at reducing postoperative opioid consumption in burn patients.
Methods: A retrospective review of burn patients undergoing split-thickness skin grafting at our institution was performed. Patient demographics, burn mechanism, and percent burned total body surface area were collected. The type of regional anesthesia, when it was performed, and the anesthetic agents used were also determined. Milligram morphine equivalents (MME) were calculated for three 24-hour periods postoperatively to quantify opioid usage. The total MME in 72h postoperatively was also determined and used to calculate per day MME requirements. Mean, and peak pain scores in the first 24h postoperatively were collected. Univariate and multivariate analyses were performed to determine the efficacy of regional anesthesia.
Results: Twenty-five patients were identified, 14 who received donor site regional anesthesia and 11 who did not. The two groups did not differ significantly in age, gender, race, BMI, or burn mechanism. The regional anesthesia group had a significantly lower percent burned TBSA (5.3 vs. 21.6, $p < 0.001$). Still, donor site dimensions did not differ significantly between groups (363 cm2 vs. 411 cm2, $p = 0.247$). The use of regional anesthesia was associated with significantly lower MME requirements in the first 24h postoperatively (22.5 vs. 84.9, $p = 0.023$), lower total requirements after 72h (47.3 vs. 147.8, $p = 0.016$), and lower per day requirements (17.6 vs., 51, $p = 0.014$). The regional anesthesia group was discharged on average one week sooner (5.1 days vs. 12.4 days, $p = 0.031$). Multivariate analysis demonstrated the use of regional anesthesia independently predicted decreasing MME requirements in the first 24h after surgery, decreasing MME requirements in total, and decreasing per day MME requirements. No patients experienced anesthesia-related complications.
Conclusions: In a cohort of burn patients undergoing split-thickness skin grafting, the use of regional anesthesia was highly effective at reducing opioid requirements in the immediate postoperative period. We believe regional anesthetic blockades should be considered to provide long-lasting donor site analgesia. More investigation is warranted into ideal anesthetic agents, the maximum donor site dimensions, and the extent of cost savings.