

Comparative study of conventional and topical heparin treatment in second degree burn patients for burn analgesia and wound healing

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Abstract

Objective: To evaluate scientific outcome of topical traditional with topical heparin remedy in second diploma or partial thickness burn (ptb) sufferers. Strategies: sufferers, among the while of 14 and 60 years with second degree burns involving <20p. Cttotal frame surface vicinity (tbsa) on the front of chest, stomach and upper limbs apart from fingers and decrease limbs have been enrolled from September 2015 to august 2016. Sufferers had been randomized to conventional or heparin remedy agencies. Medical final results measured were healed wound size, ache scores and total intake of analgesic remedy required to alleviate pain. Protection of the remedy and unfavourable activities were also measured the topics on this take a look at were 40 consecutive burn patients with 10-20% burns, randomly allotted to heparin organization (h-organization) (20) and control organization (c-institution) (20). All sufferers in the h-group were receiving analgesics on call for simplest from the 2nd week onwards. This turned into in evaluation to the c-group in which 35% patients acquired twice each day dosage of analgesics within the 2 nd week of their remedy. While as compared to the average sanatorium stay of 18. 3 days inside the c-institution, sufferers belonging to the h-institution had a median health facility stay of 12. 3 days ($p < \text{zero. } 05$). Conclusions: the contemporary comparative observe demonstrates that heparin notably decreases the requirement of analgesics and the time required to prepare a burn wound for grafting. Besides as compared to silver sulfadiazine dressings, heparin appears to be fee-effective. Pain associated with partial thickness burns (ptb) is very excessive and distressing for the sufferers. Topical conventional remedy of superficial ptb wounds includes software of polyfax skin ointment plus lignocain gel twice an afternoon after wound wash while deep ptb are treated with silvazine cream two times a day and organized for grafting if no longer healed within 3 weeks. Existing conventional remedy is un-cozy and high-priced for the patients. Search continues for a reliable, safe, cheap and powerful remedy of burn. Topical use of heparin has been determined powerful in lowering ache associated with burn wounds. Extra over use of heparin topically in burn sufferers is straightforward to perform and reasonably-priced but for the time being, proof of its effectiveness is weak. Cutting-edge observe is being performed to confirm clinical effectiveness of use of heparin in 2nd degree burns via comparing it with topical traditional remedy. 2d diploma or partial thickness burn (ptb) is maximum complex range to perceive and deal with, out of all 4 categories of burn (primarily based on depth). It's far similarly divided into superficial and deep partial thickness primarily based at the intensity of dermal harm. (1) scientific standards pleasing all the points for each class i. E. Superficial ptb (sptb) being reddish pink, bleed rapidly (in <3sec) on pin prick, blanch with brisk return (in <2 sec) on pressure, blister formation and deep ptb (dptb) being mottled pink, delayed bleeding (in >3 sec) on pin prick, gradual go back (in >2 sec) on pressure, no blister, is maximum generally used to distinguish both the sub-instructions. Pain is hallmark of second

degree burns and is treated with the aid of topical and iv analgesics. Topical conventional treatment of superficial ptb wounds consists of application of polyfax skin ointment plus lignocain gel two times a day after wound wash at the same time as deep ptb are treated with silvazine cream two times a day and prepared for grafting by way of ordinary saline dressings, if now not healed within 3 weeks. Clinical problems, pregnant girls, coagulation problems other types of burns like chemical, electric. In overall one hundred cases divided as c organization 50 sufferers and institution –h-50 sufferers. All patients to start with evaluated and resuscitated as according to atls concepts. Written and knowledgeable consent taken from all sufferers explaining regarding have a look at. Recurring case taking and blood biochemistries completed along with coagulation profile on day 1,three,five in case h institution. Recurring ache management protocol and antibiotic given topical heparin spray is prepared with the aid of including 20. 8 ml of 5000 iu/ml of heparin to 500 ml of physiological regular saline to make a total of 2 hundred iu/ ml focused answer. Dose of heparin requirement is calculated based on % of burns taking each 15% 1 lakh iu of heparin and for that reason answer is ready. With iv needle and set, heparin answer is sprayed on occlusive saline dressing of unmarried layer guanje pads which help by providing good enough wet environment and avoids wastage of heparin. Occlusive dressing additionally avoids insensible fluid and warmth loss, reduces pain and contamination fee. Day 2-7th heparin requirement is calculated once more in step with positive signs of reaction of heparin spray like blanching of erythema, discount of edema, formation and separation of eschar, signs and symptoms of epithelialisation

Results: Out of 66 patient included in study mean (SD) age of participants was 27(10) years, of which 59% were males. Mean (SD) TBSA burn was 14% (3) [23(35%) had SPTB, and 43 (65%) had DPTB]. The burn injury was caused by flames in 68% and by hot liquids in 32% patients. There was no statistically significant difference in distribution of patients according to age, gender, TBSA burn, etiology or depth of burns in the two treatment groups. As compared to conventional treatment group, heparin treatment group had significantly better outcomes. Number of days needed for wound healing was significantly lower in the heparin group than the conventional group (16 ± 2 vs. 24 ± 4 days; $P\text{-value} < 0.001$). Mean pain score was also lower in the heparin group (3 ± 1 vs. 7 ± 1 ; $P\text{-value} < 0.04$). Similarly, total consumption of analgesic medication was significantly less in the heparin group (46 ± 6 vs. 124 ± 13 mg; $P\text{-value} < 0.001$). In both groups, no patient had wound infection, skin necrosis, leucopenia, thrombocytopenia, worsening renal function, or abnormal liver enzymes

Conclusion: Treatment of Second degree or partial thickness burns (PTB) with topical heparin is superior to conventional treatment in terms of wound healing as well as for pain control. The treatment with topical heparin is well -tolerated and is without higher adverse effects.