Intraoperative Liposomal Bupivacaine for Skin Graft Donor Site Analgesia

Saturday, November 10, 2018
8:45 – 9:00 am

Author and Co-authors:

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Objective:

Upon completion of the lecture, attendees should be better prepared to:
- Acknowledge the clinical application of liposomal bupivacaine in autograft donor sites
- Demonstrate the clinical significance of decreased postoperative pain in autograft donor sites when liposomal bupivacaine is utilized

Abstract:

Introduction: Both burn injury and the subsequent reconstructive operations often result in severe pain. The pain experienced at the autograft donor site is often more intense as compared to the burn injured skin. Traditionally-used local anesthetic formulations administered intraoperatively can provide safe and effective pain control at the operative site, but the duration of action is short. Liposomal bupivacaine (LB) a novel local anesthetic contained within multiple, non-concentric lipid bilayers which prevent rapid elimination. The formulation provides a method of sustained release analgesia that may be used to prevent postoperative pain for up to 72 hours. The primary aim of the study was to describe the efficacy of LB use for burn patient postoperative pain control at autograft donor sites.

Methods: This study was a retrospective review of patients at a regional burn center who received full thickness and split thickness skin grafts with intraoperative donor site LB between January 2017 and February 2017. Adult patients who underwent autograft procedures for burn injury, traumatic wounds, and other chronic wounds were included. A donor site field block was performed. Patients were asked whether or not their donor site pain was <3/10 for the first 48 hours after surgery. Patients were also asked to state which area was causing them more pain, the donor site or the graft site. Adverse events were tracked including mortality, donor site infection, local reaction, and thirty-day readmission.

Results: A total of 27 of patients (30 donor sites) met inclusion criteria. This included three patients with greater than one donor site. The median burn size grafted was 4 (1 to 21.5) percent total body surface area (%TBSA). The median donor size was 70 (4 to 864) square centimeters. Donor site locations included right thigh (14), left thigh (13), right upper back (1), left upper arm (1), and anterior torso (1). Four full thickness autographs and 26 split thickness autografts were included. The median dose of LB

	used was 266 (133 to 266) mg. The median milligrams (mg) of LB used per square centimeter (sqcm) administered was 3.8 (.31 to 66.5) mg/sqcm. Ninety percent of patients (27 of 30) rated their donor site pain as 3 or less for 48 hours after their surgery. Eighty percent of patients (24 of 30) stated their donor site pain was less than their graft site pain. Only one patient experienced a donor site infection, and only one patient was readmitted within thirty days. All patients' donor sites were epithelialized by post op day 14. **Conclusions:** Intraoperative administration of LB at the skin graft donor site results in lower than expected levels of postoperative pain. Preliminary data suggest that LB given at recommended doses is safe and extremely effective. Liposomal bupivacaine may be a promising agent for burn care when it comes to prolonging post-operative analgesia and minimizing donor site pain but needs to be further studied in prospective trials.
Disclosure:	Christina E. Artz – No Relevant Financial Relationships to Disclose Majel VP Miles – No Relevant Financial Relationships to Disclose Clint Leonard – No Relevant Financial Relationships to Disclose Alicia Linter – No Relevant Financial Relationships to Disclose Andrew Bright – No Relevant Financial Relationships to Disclose Kaitlin M. Alexander – No Relevant Financial Relationships to Disclose Steven A. Kahn – No Relevant Financial Relationships to Disclose