Introduction: Multimodal analgesia has largely replaced pain mono-therapy with opioids, however, opioids still remain the most commonly used medications to treat acute post-operative and trauma pain. Other foundational analgesics and adjuvants might help reduce pain scores and opioid requirements. For example, multiple meta-analyses found that lidocaine infusions were able to decrease post-operative pain intensity and reduce opioid consumption for some surgical procedures. However, the effects of lidocaine infusions have yet to be studied in trauma patients. In this case series, we have documented two trauma cases in which the addition of lidocaine was found to improve pain management for these patients.

Methods: Local REB approval was waived. Patient 1 was a 60-year-old who fell from a 10 foot ladder resulting in T12-L1 fracture dislocation and multiple spinous process avulsions from T10 down. Patient 2 was a 37-year-old involved in a motor vehicle collision resulting in multiple rib fractures (4-10) along with lung contusions and a diaphragmatic laceration. These patients were started on multimodal analgesia including acetaminophen, NSAIDs and Gabapentin in addition to Hydromorphone patient controlled analgesia (PCA). Due to poor pain control and the high opioid requirements, the acute pain service team decided to add lidocaine infusion (1mg/kg/hour) concurrently with the PCA to control the patients’ pain.

Results: Both patients showed significant improvement in their NRS scores and opioid consumption (figure). Within less than 24 hours, there was more than a 60% reduction in opioid PCA usage and more than a 75% reduction in NRS. Due to the significant improvement, lidocaine infusion and PCA were stopped within 24 hours with no report of side effects.

Conclusion: Lidocaine infusion can be a useful adjuvant in pain management for trauma patients. It was found to reduce patients’ opioid consumption and improve pain scores. This suggests that lidocaine infusion has the potential to be a promising modality of pain management in patients with poor pain control post-trauma. Further studies are required to investigate the benefit of adding lidocaine infusion to poly trauma patients.

References:


Pain scores (NRS) and hydromorphone usage (0.2 mg/bolus) during lidocaine infusion