

Utilization of Multimodal, Narcotic-Free, Pain Control Regimen Is Adequate for Patients with Femur and Tibial Shaft Fractures

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Purpose: The United States is facing an opioid epidemic. Although this is a global crisis, America is faring far worse than other countries. There is likely an overutilization of opioid analgesics in postoperative orthopaedic trauma patients, which is contributing to this problem. The purpose of this study was to determine if a multimodal pain regimen without a Schedule II narcotic effectively controls postoperative pain for trauma patients with a femur or tibial shaft fracture.

Methods: The trauma registry at our Level-I trauma center was queried for patients with a diagnosis of femur shaft (OTA/AO 32A) or tibial shaft fractures (OTA/AO 42A) between October 2016 and October 2018. Patients between the ages of 18-95 years whose fractures were managed operatively were included in the study. Our standard postoperative pain regimen at discharge includes Tylenol #3, Tramadol, gabapentin, and a nonsteroidal anti-inflammatory medication (NSAID). If pain is not controlled, then a Schedule II narcotic (eg, hydrocodone, oxycodone, or dilaudid) was utilized in placed of Tylenol #3 or Tramadol. Patients without postoperative follow up were excluded from the study. Discharge medications, analgesics, and visual analog scale (VAS) scores during the first 6-week follow-up appointments were recorded.

Results: 119 patients (N = 81 male) with 129 operative fractures and a mean age of 43 years (range, 18-92) were included in the analysis. Fracture patterns included OTA/AO 32 (N = 52), and 42 (N = 77). 64 patients (54.8%) had an isolated injury to the tibia or femur, while 55 (46.2%) were polytrauma patients. 42 femurs (81%) and 68 tibias (88%) were treated with intramedullary nails. There was no unplanned admission or return to the emergency room due to pain control. Overall, only 10.0% (12/119) of patients required any use of Schedule II narcotic medications for pain management either at discharge or at clinic follow-up. Eight patients (6.7%) were discharged with a Schedule II narcotic, 5 of whom were transitioned to narcotic-free regimens at their 2-week clinic visits. Of the patients discharged with the standard multimodal non-narcotic regimen (N = 111), only 3.6% required a Schedule II narcotic within their 6-week follow-up. Median (interquartile range [IQR]) VAS scores demonstrated a downward trend at 3.0 (0.0-6.5), 1.0 (0.0-5.5), and 0.0 (0.0-5.0), respectively. VAS scores at the last follow-up were significantly lower than those reported at the first follow-up appointment, $P = 0.009$.

Conclusion: Multimodal pain control regimens in the immediate postoperative follow-up period appear to be effective in treating postoperative pain after femoral and tibial shaft fractures, including in the setting of polytrauma. Adhering to a multimodal pain management regimen for postoperative femoral and tibial shaft fracture patients without the use of narcotic medications decreases the amount of opioids in circulation and the morbidity and mortality associated with their use.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.