

Opioids and Neuropathic Pain Medication Use In Patients with Brachial Plexus Injuries



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INTRODUCTION

- Little is known about the frequency and risk factors for long-term use of opiates and neuropathic pain medications among patients with brachial plexus injuries (BPI)
- Hypothesis: Patients with preoperative opiate prescriptions and diagnoses of depression, substance use, and post-traumatic stress disorder would be at increased risk for continuous opiate prescriptions after BPI surgery.

METHODS

- Retrospective review of MarketScan administrative claims database of privately-insured patients n=1,156 patients who underwent BPI surgery
- Age- and sex-matched control group of non-BPI patients
 - 3:1 to 5:1 frequency-match depending on age group (control group n=11,600)
- All patients had >1-year health insurance and prescription drug coverage prior to and through, 90 days after surgery
- Pharmacy claims for prescriptions filled for opioids and neuropathic pain medications examined from 1 year before surgery to 90 days after surgery
 - Opioids: codeine, morphine, methadone, oxycodone, hydrocodone
 - Neuropathic pain medication: gabapentin, pregabalin, amitriptyline, nortriptyline, duloxetine, venlafaxine

RESULTS

	BPI patients (n=1,156)	Control patients (n=11,600)
Continuous postoperative opiates	9.2%	0.9%
Continuous postoperative neuropathic pain medication	8.7%	1.7%

- After adjustment for age and sex, significant predictors of continuous postoperative opiate:
 - Preoperative opiate use (OR 8.0; 95%CI 4.8, 13.3)
 - History of drug abuse (OR 5.2; 95%CI 2.0, 13.5)
 - Preoperative neuropathic pain medication use (OR 3.3; 95%CI 2.0, 5.6)
 - History of tobacco use (OR 2.3; 95%CI 1.3, 4.2)
 - Diagnosis of anxiety (OR 2.3; 95%CI 1.3, 4.2)

CONCLUSION

- 9.2% of BPI patients had continuous opiate prescriptions after surgery.
- Quantification of the extent of chronic pain and opiate use can inform perioperative counseling.
- Identifying significant risk factors for continuous postoperative opiate use after BPI surgery can aid health care providers in minimizing chances of chronic opiate use.
- Greater attention should be directed to psychosocial factors that increase the risk of continuous opiate use.
- Integrated multidisciplinary care allows the development of comprehensive treatment plans to provide pain relief but address psychosocial factors of neuropathic pain.

