

Perioperative Management of the Opioid Dependent Patient

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INTRODUCTION

As the burden of chronic pain and opioid use becomes more prevalent in society, outlining the proper perioperative treatment regimen of these patients has become more essential to patient care. Current literature suggests chronic opioid users will experience increased postoperative pain and increased opioid consumption in comparison to the opioid naive population. The chronic opioid user can often pose a greater challenge to the surgeon to effectively relieve pain, prevent withdrawal, and maintain the standard of care.

PREVALENCE AND TRENDS IN OPIOID PRESCRIBING

The International Association for the Study of Pain defines chronic pain as pain lasting longer than 3 months (1). The Institute of Medicine reports chronic pain affects 100 million Americans and costs an estimated \$635 billion dollars annually (2). Many of these patients have conditions that overlap with podiatry such as back pain, neuropathy, and fibromyalgia. In 2015, the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention released a report on trends in opioid prescription over the past 10 years. The study compared the percentage of adults that were prescribed a narcotic within 30 days over the period of 1999 to 2012. According to the report, there has not been a significant increase in prescription of opioids since 2003 (3). The NCHS also reviewed the strength of opioids that were prescribed during that time frame. Although there has not been a significant increase in prescriptions, the strength of the opioid has increased. The percentage of opioid users that are prescribed an opioid that is stronger than morphine (including hydromorphone, fentanyl, and oxycodone) has increased significantly from 17% in 1999 to 37% in 2012 (3). In contrast, the percentage of users that were prescribed an opioid weaker than morphine (including codeine, tramadol, and meperidine) decreased significantly from 42.4% in 1999 to 20% in 2012 (3). With the uptrend in the strength of medications physicians are prescribing, there is an increase in potential for tolerance and abuse, which can complicate the perioperative period.

PREOPERATIVE CONSIDERATIONS

The first step to the preoperative assessment of an opioid dependent patient is identifying the patient as having a chronic pain condition or as a chronic opioid user. A thoroughly documented pain history is integral to the preoperative workup of the patient. This specific history and physical outlines any indications of misuse, previous abuse interventions, the patient's current daily opioid dose, and pain management goals throughout the perioperative period. If there is high clinical suspicion for opioid use, consulting the state prescription drug monitoring program and having the patient consent to urine drug testing may augment the surgeon's documentation. There are 2 types of urine drug testing: immunoassay and gas chromatography/mass spectrometry (GC/MS). The immunoassay test results are available within 24 hours; however, it is considered a screening test as it is susceptible to false positives and is also insensitive to many synthetic opioids. GC/MS testing may take up to 7 days; however, it is the confirmatory test and detects many common synthetic opioids with more accuracy. (4)

If unmanaged chronic pain or opioid abuse is suspected, a consultation with a pain management physician prior to surgery may be beneficial. If the patient is already under the care of a pain management provider, discuss the nature of the surgical procedure, recovery, and postoperative pain regimen with the specialist. In addition, it is important to ensure the patient is not under a pain contract, which may be violated by the prescription of pain medications postoperatively by the surgeon. The surgeon may also consider entering into a substance contract, which outlines single prescriber, single pharmacy guidelines, and repercussions of breach of contract, with the patient.

DAY OF SURGERY AND INTRA- OPERATIVE CONSIDERATIONS

On the day of surgery, current literature recommends the patient continue to take the daily dose of their opioid medication to avoid the potential for withdrawal and achieve the greatest postoperative pain control (5). As the surgeon, ensure the patient clearly understands this as

patients are often told to avoid taking their medications on the day of the procedure. Collaboration with the anesthesia team is integral to postoperative pain control. It is important that anesthesia is aware your patient may have a greater intraoperative analgesia requirement due to their condition. Careful patient positioning to allow for maximum comfort is also beneficial. Prior to beginning the procedure, a successful local anesthetic block preoperatively is necessary. In addition, the surgeon may request that a nonopioid adjuvant analgesic, such as Toradol or Ofirmev, be administered to the patient prior to the end of the procedure.

POSTOPERATIVE PAIN MANAGEMENT

In the postoperative setting, the opioid user can be expected to have a greater opioid requirement than the opioid naive patient. In a retrospective study, Rapp et al reviewed opioid consumption of 202 chronic pain and opioid consuming (CPOC) patients compared to 180 controls in the postoperative setting. The study found that when considering patient controlled analgesia (PCA), the CPOC patients administered 3 times the morphine equivalent in comparison to the control group (6). In addition to greater opioid consumption, Gulur et al reported that opioid tolerant patients have an increased length of hospital stay and an increased rate of 30-day readmission (7).

The PCA pump with a basal rate and nonopioid analgesics are recommended for patients with a history of opioid use postoperatively. It is important to monitor the patient closely within the first 24-48 hours for adequate pain relief and for symptoms of withdrawal. While withdrawal symptoms may be unpleasant for the patient, most are non-life threatening and may be treated with symptom management. Current literature reports only 50% or less of the preoperative dose is needed to prevent withdrawal symptoms (8). Upon discontinuation of intravenous pain control, the surgeon should convert the patient to the oral opioid equivalent of the intravenous drug. During the postoperative period, the physician should be aware of the potential for the development of opioid tolerance or opioid-induced hyperalgesia (OIH). Although these conditions are different, the patients will typically experience the

same issue: increased opioid doses to achieve adequate analgesia. Opioid tolerance occurs due to opioid receptor desensitization and develops after approximately 2 weeks of opioid use. Opioid tolerant patients improve with increased doses. In contrast, OIH is a sensitization of the nociceptive pathway. OIH develops quickly and is relieved by reduction of the opioid dose.

In conclusion, as the use of stronger opioids and the number of chronic pain patients increases, there is an increased demand for podiatric surgeons to understand the details of managing this patient population's pain perioperatively. The surgeon should appropriately identify these patients, acknowledge their differing analgesia requirements in comparison to opioid naive patients, and incorporate non-opioid and appropriate opioid therapy into their care. Caring for this patient is a team approach and it is important to collaborate with pain management and anesthesia to best manage the patient. As this patient population increases, further research regarding the management of chronic opioid users in the podiatric surgical setting could improve the treatment and help to develop a well-defined standard of care for these patients in the field.

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