



Postoperative pain control after urethroplasty: an opportunity for non-opioid pain management

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There is existing concern that surgery and post-operative opioids are a major source of chronic opioid use. Evidence suggests that 6% of opioid naïve patients become newly addicted after surgery, and 1 in 16 patients become long term narcotic users post-operatively (1). Moreover, leftover and unused medications, lack of disposal and unsecure storage of opioids are all factors that increases overall risks for narcotic abuse and majorly contribute to the opioid crisis (2-4).

Current options for postoperative pain control aside from prescription narcotics after urologic surgery is an important strategy to ameliorate the burden of the well-documented opioid epidemic (5). The three key strategies highlighted in Chang and collaborators' article are preventative analgesia in the pre-operative setting, nerve blocks, and multimodal analgesia (MMA) (6). The authors clearly delineate the mechanism of action and evidence for each of these proposed strategies. Combining two or more of these strategies in the peri-operative setting may eliminate over-reliance on narcotics for pain control and potentially reduce the total number of opioid-related adverse events.

Anecdotally, our institutional experience has utilized all three of these strategies within all fields of urologic surgery and have noticed better optimization of post-operative pain control and subsequently, patient satisfaction (7). In the pre-operative setting for robotic-assisted laparoscopic surgery, we utilize a combination of acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, and gabapentinoids such as pregabalin, unless clinically contraindicated. This allows for utilization of both

preventative analgesia and MMA strategies. More specific to reconstructive procedures such as urethroplasties, artificial urinary sphincter or penile prosthetic implantations, we also utilize both MMA and nerve block strategies to the pudendal and dorsal penile nerves. With adequate pre-operative counseling from the primary surgeon, patients are also discharged on MMA with acetaminophen, ibuprofen, and gabapentin. These patients rarely require, or even request opioid medications, and if they do, they never require further refills. These results are promising and have also been reproducible by other authors performing reconstructive and prosthetic urology procedures (8-10).

At Thomas Jefferson University Hospital, we previously surveyed a cohort of opioid-naïve patients who were undergoing urethroplasty. This study was conducted before we transitioned to a non-opioid, MMA regimen. These patients were tasked to complete a patient-reported questionnaire which monitored end of day pain on a 1–10 visual analog scale (VAS) and pain medication usage until post-operative clinic follow-up 3–4 weeks after surgery. VAS was categorized into mild [1–3], moderate [4–6] and severe [7–10] pain.

Fourteen patients completed the questionnaire with demographic data highlighted in *Table 1*. Nine patients (64%) reported mild to no pain on initial two-week post-operative follow-up visit, three (21%) of which did not have any pain starting post-operative day 1. Only one (7%) patient was complaining of persistent severe pain on follow-up visit and three (21%) patients ever rated their pain as severe for an average of 4 days. Despite severe pain,

Table 1 Demographics of 14 urethroplasty patients

Variables	Number (mean ± SD)
Age, years	57.5±12.9
BMI, kg/m ²	32.6±6.6
Length of surgery, min	257.9±105.9
Total pain days	9.3±6.7
Total days using narcotics	4.5±6.3
Total narcotic pills used	8.4±14.9
Total narcotic pills unused	13.7±6.4
Total days using acetaminophen	7.9±7.4
Total days using ibuprofen	4.7±7.1

SD, standard deviation; BMI, body mass index.

only two of them took narcotics for an average of one 5 mg oxycodone per day. Most patients (n=10, 71%) reported an improvement to mild pain by day 5–6, eight of which did not require any opioids throughout their recovery period. Overall, 5 (36%) patients did not require any narcotic usage, while 4 (29%) patients only took a total of 1–2 pills post-operatively.

This brief survey provided an improved understanding of the duration, severity, and quantity of post-operative pain control amongst patients undergoing urethroplasty at our institution. Through appropriate patient counseling and setting realistic expectations on pain control, majority of patients did not require significant quantities of opioid medications. Based on these findings, we were able to confidently and successfully transition to a non-opioid, MMA regimen. Moreover, current literature further supports the benefits and efficacy of non-opioid MMA protocols, preoperative analgesia, and nerve blocks to reduce post-operative pain and narcotic use in other urologic procedures both in the adult and pediatric population (11-14).

There is a growing understanding of pain pathways and methods for post-operative pain control following urologic procedures. This warrants increased physician engagement and participation in patient counseling on expectations for post-operative pain control and management. Importantly, this can help further optimize non-opioid pain control regimens and potentially decrease the exposure and utilization of narcotic medications, thus eventually curbing the opioid epidemic.

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