Opioid Utilization in Post-Tonsillectomy Pediatric Patients

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Abstract

- Prospective cross-sectional study to evaluate post-operative use of oxycodone in pediatric tonsillectomy.
- Caregivers were surveyed for post-operative pain management and opiate use and disposal.
- 38 patients were included with excellent pain control in 70% of patients using opiates.
- Tonsillitis associated with increased opiate consumption.

Background

- There is considerable variation in provider practices for post-tonsillectomy pain management
- Generally, pain is under-treated in children after tonsillectomy, which confers risk of poor oral intake, dehydration, and subsequent hospitalization.
- Commonly used medications include ibuprofen, acetaminophen, and opiates in refractory pain.
- The use of opiates in the United States is high, with 4.8% of patients prescribed opiates after tonsillectomy having persistent opiate use.
- Patient education on usage of opiates and their subsequent disposal is limited.

Methods

- Study was approved by the Stanford IRB
- Prospective study of patients age 6-18 undergoing tonsillectomy July 2019 – December 2022.

Inclusion criteria:

- Received ibuprofen, acetaminophen, and oxycodone
- Tonsillectomy with or without adenoidectomy, turbinate reduction, or pharyngoplasty

Exclusion criteria:

- Prolonged inpatient care
- History of organ transplant, chronic pain or narcotic use, congenital disorders, inability to take pain medication, or other interfering medical disorders

Cohort Characteristics

	N=38
Age, years (mean ± SD)	14.2 ± 2.2
Age, years (grouped)	
8 - 10	1
11 - 13	13
14 - 16	18
17 - 18	6
Sex (Male, Female)	14M, 24F
Race, N (%)	
White or Caucasian	13 (34.2%)
Asian	1 (2.6%)
Alaska Native or Hawaiian	1 (2.6%)
Other	23 (60.5%)
Ethnicity, N (%)	
Hispanic	20 (52.6%)
Non-Hispanic	16 (42.1%)
Unknown or not reported	2 (5.3%)
BMI (mean ± SD)	30.1 ± 6.6
Indication, N (%)	
OSA only	32 (84.2%)
Tonsillitis only	3 (7.9%)
OSA + Tonsillitis	3 (7.9%)

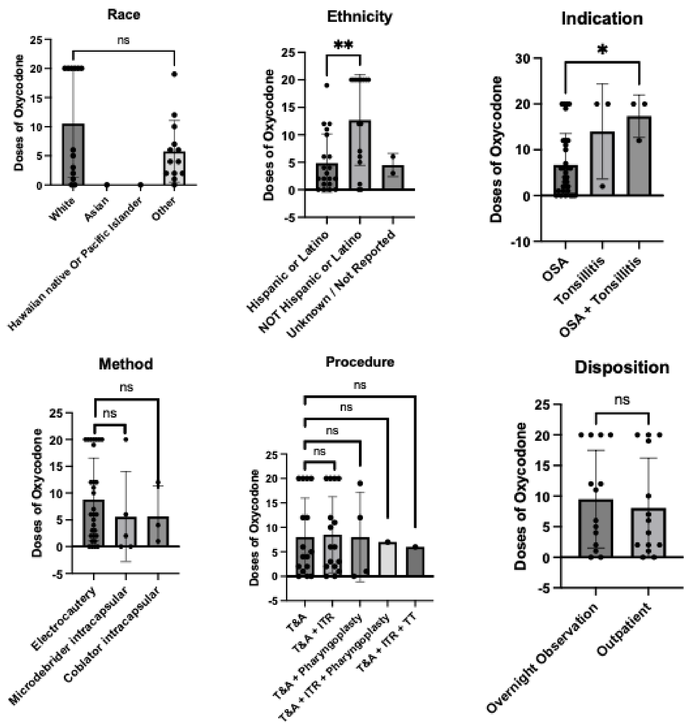
	N=38
Opioid Naïve, N (%)	24 (63.2%)
Procedures Done, N (%)	
Tonsillectomy & adenoidectomy (T&A)	15 (39.5%)
T&A with inferior turbinate reduction (ITR)	16 (42.1%)
T&A with pharyngoplasty	4 (10.5%)
T&A with sleep endoscopy	1 (2.6%)
T&A + ITR + pharyngoplasty	1 (2.6%)
T&A + ITR + tympanostomy tubes	1 (2.6%)
Tonsillectomy Method, N (%)	
Electrocautery	30 (78.9%)
Microdebrider intracapsular	5 (13.2%)
Coblator intracapsular	3 (7.9%)
Plan for Opioid Disposal, N (%)	
No Plan	20 (52.6%)
Return to Clinic/Hospital	14 (36.8%)
Flush	3 (7.9%)
Other	1 (2.6%)
Post-Op Disposition, N (%)	
Observation Overnight	14 (36.8%)
Outpatient	24 (63.2%)
Readmission, N (%)	5 (13.2%)

Most patients in our cohort received tonsillectomy for obstructive sleep apnea (OSA), and most caregivers did not have a plan for disposal of extra opiates.

Most patients reported higher Likert pain scores post-tonsillectomy, with a skewed distribution.

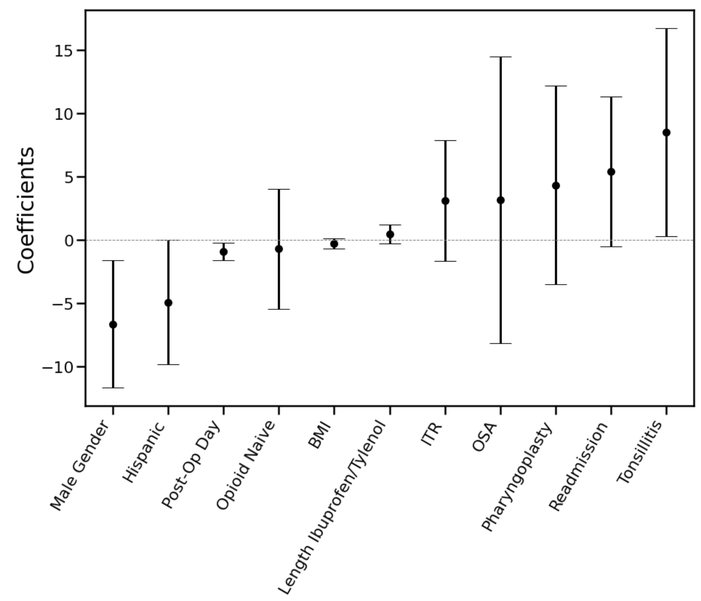
Distribution of Pain Scores

Comparisons of Post-operative Opioid Use



Patients with tonsillitis or identifying as Non-Hispanic had higher average use of oxycodone

Multivariable Linear Regression



Multivariable linear regression showed patients identifying as male or responding to the survey on a later day were associated with less opiate use, while patients with tonsillitis were associated with significantly greater opiate use.

Conclusions

- While most patients received T&A for OSA, tonsillitis was associated with greater post-operative oxycodone usage.
- Many caregivers lack knowledge of effective opiate disposal after tonsillectomy.
- Patients self-identifying as Hispanic or Latino had lower opiate usage on average.
- Caregivers need additional education on proper use and disposal of opiates after tonsillectomy.

Next Steps

- Expanding our analyses to other academic centers.
- Evaluating post-operative opiate usage across other common pediatric procedures.

Key References

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