

Opioid-Naïve Patients are Susceptible to Prolonged Opioid Use and Costs after Primary Total Knee Arthroplasty

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Disclosures

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Opioid Use after Primary TKA

- Despite use of multimodal analgesia, nerve blocks, and peri-articular injection, opioids continue to be frequently used in patients having TKA
- Patients frequently still taking opioids at 6 months or longer after TKA; preop use predictive!
- Little data on the prolonged use of opioids in patients having TKA who are “opioid-naïve” preop

Methods

- Retrospective, observational study
- **Aetna** Commercial + Medicare Advantage database
- 34,109 primary TKA patients
 - July 1, 2014 through June 30, 2018 (observed 180 days preop + postop)
- 19,392 (57%) **opioid-naïve** patients
 - (defined: no opioids for 6 mths preop)
- **Prolonged opioid user**
 - (defined: ≥ 1 opioid Rx between 7 days preop & 90 days postop and ≥ 1 Rx between 91-180 days postop)
- **Early opioid user**
 - (defined: ≥ 1 opioid Rx between 7 d preop & 90 days postop; none after)

Methods

- **Outcomes**

**How many opioid-naïve patients became
“prolonged (chronic) users” ?**

**Patient risk factors for becoming
chronic opioid users ?**

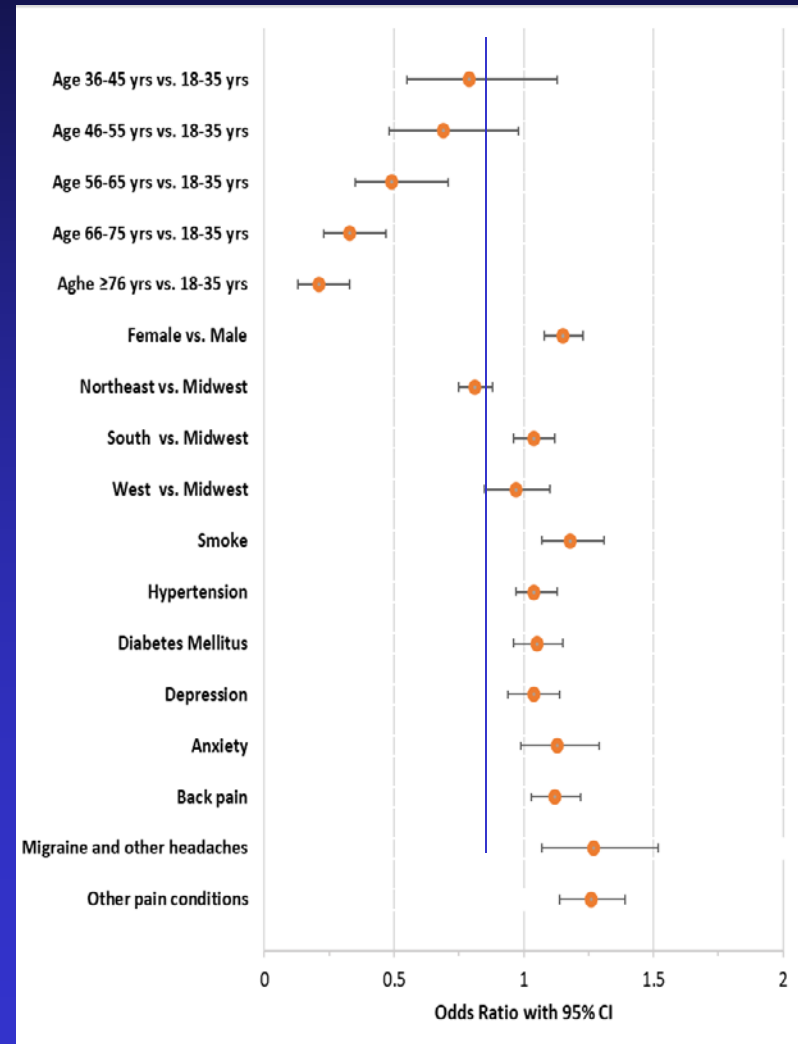
**Cost differences between patients who
became chronic opioid users and
those who did not ?**

- **Multivariate regression analysis**

Results

- 3,346 (17.3%) opioid-naïve patients became prolonged opioid users !
- Patient risk factors:
 - Younger age
 - Female
 - Smoking
 - Back pain
 - Migraine and other headaches
 - Other pain conditions

Risk Factors for Prolonged Opioid Use



Results

**Mean healthcare costs 6 months after TKA
(excluding surgical costs)**

- **Significantly higher costs for prolonged opioid users than for early opioid users !**

Prolonged users \$13,405

Early users \$ 8,063 (p<0.0001)

- **More prolonged opioid users were discharged to SNF than early opioid users**

15.7% vs 11.2% (p<0.0001)

Study Limitations

- **Retrospective, observational cohort study**
- **Limitations of all administrative databases**
coding and documentation errors; lack of pain scores
- **Accuracy of “preop opioid use” reporting**
- **Definition of “prolonged” opioid use**
- **Opioid prescriptions written; no data that**
meds were actually taken or for what reason
patients were taking opioids (TKA or other condition)

Prolonged Opioid Use after TKA

- Namba et al J Arthroplasty 2018
Kaiser database 2008-2011 23,726 patients
Patient risk factors: younger, preop opioid use, back pain, chronic pain, depression, anxiety, etc
First 90 days postop: 93% had median 3 opioid Rx's
No data on opioid-naïve patients
- Bedard et al J Arthroplasty 2017
PearlDiver database 2007-2015 73,959 patients
40% “non-opioid users”
Opioid RXs: 52% at 1 mth; 21% at 2 mths; 10% at 3 mths
Multivariate regression analysis not performed

Conclusions

- In this retrospective database study, 17.3 % of opioid-naïve patients became prolonged opioid users after primary TKA
- Factors associated with prolonged postop opioid use included younger age, female, smoking, back pain, and other pain conditions
- Healthcare costs for these patients were significantly greater than for the “early user” patient group
- Additional strategies to reduce postop opioid use after primary TKA can be cost-effective and benefit both opioid-naïve patients and preop opioid users