5-2019

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**Recommended Citation**

Fleishman, Nathan R.; Richardson, Troy; and Attard, Thomas M., "Pediatric PPI Use and Fractures" (2019). *Posters*. 100.  
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Pediatric PPI Use and Fractures

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BACKGROUND
- Proton pump inhibitors (PPI) are one of the most widely prescribed classes of medications
- Increasing reports of safety concerns regarding PPI use including the risk of fracture
- Limited studies examining risk among pediatric patients

STUDY AIMS
- Compare rate of fracture among pediatric patients exposed to PPI to rate among patients without exposure
- Determine if fracture location differs among children exposed to PPI

METHODS
- Retrospective propensity-matched analysis using Pediatric Health Information Systems database
- Initial encounters for patients 6 months to 15.5 years between 06/01/2011 to 12/31/2015
- Patients evaluated over 2-year period for encounter resulting from fracture
- Extensive exclusion criteria of conditions and medications which could increase the risk of fracture were applied

FINDINGS
- 32,001 encounters with documented PPI use were propensity matched to the same number of encounters with no PPI documented
- Statistically significant higher rate of fractures among the PPI exposed group (1.4% vs 1.2%, p = 0.019)
- Adjusting for remaining differences in sex, race, encounter type, payer, and resource intensity after matching, this remained statistically significant (p = 0.017 OR (95% CI) of 1.2 (1.0,1.4)
- PPI cohort more likely to suffer from lower extremity, rib, and spinal fractures (p = 0.01)
- No relationship between fracture risk and individual PPIs (p = 0.205)

CONCLUSIONS
- There may be an increased risk of fracture among otherwise healthy pediatric patients taking PPI
- Serious consideration of fracture risk should be considered prior to prescribing PPI to pediatric patients
- Future studies examining mechanism of PPI effects on bone health are needed

RESOURCES
- Vestergaard P, Rejnmark L, Moskilde L. Proton pump inhibitors, histamine H2 receptor antagonists, and other antacid medications and the risk of fracture. Calcif Tissue Int. 2006;79(2):76-83

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