

Early Acid Suppression Therapy Exposure and Fracture in Young Children

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[Acid suppression therapy (AST), proton pump inhibitors (PPIs), histamine H2-receptor antagonists (H2RAs)]

Main Findings:

1. Out of 851,631 children studied, 11% (97,286) were prescribed AST in their first year of life:
 - 0.9% received proton pump inhibitors (PPIs)
 - 8% received histamine H2-receptor antagonists (H2RAs)
 - 2% received both PPIs and H2RAs
2. Children prescribed AST had earlier median first fracture age (3.9 years vs 4.5 years for non-AST users)
3. After adjusting for various factors, increased fracture risk was found with:
 - PPI use alone (23% increased risk)
 - Combined PPI and H2RA use (31% increased risk)
 - H2RA use alone showed no significant increase in fracture risk
4. The fracture risk increased with:
 - Longer duration of AST treatment
 - Earlier age of first AST use
 - For PPI users, those prescribed for >150 days had 41% increased fracture risk
 - For combination therapy users, those prescribed for >338 days had 50% increased fracture risk
5. PPI initiation timing affected risk:
 - Starting at 0-6 months: 23% increased risk
 - Starting at 6-12 months: 21% increased risk
 - Starting at 12-24 months: no significant increased risk

Important Limitations:

- Study cannot establish direct causation

- Could not verify if prescribed medications were actually taken
- Some potential confounding factors were not captured
- May have missed some follow-up fractures

The researchers concluded that AST use, especially PPIs, in the first year of life is associated with increased fracture risk in children, with risk increasing with longer duration and earlier initiation of treatment. They recommend careful consideration of AST use in infants and limiting prescriptions when possible.