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Proton pump inhibitors and risk of fractures: a meta-analysis of 11 international studies.

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Source

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Abstract

BACKGROUND:

Concerns have been raised about the risk of fractures with acid-suppressive medications, such as proton pump inhibitors and histamine(2)-receptor antagonists.

METHODS:

This meta-analysis evaluated the association between proton pump inhibitor or histamine(2)-receptor antagonist use and fractures. We performed a systematic search of published literature (1970 to October 10, 2010) in MEDLINE, EMBASE, and other sources. Ten publications reporting 11 studies were considered eligible for analysis.

RESULTS:

All studies were observational case-control or cohort studies and primarily evaluated older adults. The summary effect estimate for risk of hip fracture increased modestly among individuals taking proton pump inhibitors (relative risk [RR] 1.30, 95% confidence interval [CI], 1.19-1.43). There also was an increase in spine (RR 1.56, 95% CI, 1.31-1.85) and any-site fractures (RR 1.16, 95% CI, 1.04-1.30) among proton pump inhibitor users. These findings were similar in both men and women and after stratification by duration of use. In contrast, histamine(2)-receptor antagonist use was not significantly associated with increased risk of hip fracture (RR 1.12, 95% CI, 0.97-1.30).

CONCLUSION:

In this meta-analysis of observational studies, proton pump inhibitors modestly increased the risk of hip, spine, and any-site fractures, whereas histamine(2)-receptor antagonists were not associated with fracture risk. The possibility of residual confounding cannot be excluded. Further skeletal evaluation should be considered for patients who are taking proton pump inhibitors and also at risk for osteoporotic fracture.

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