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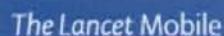
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Articles



Risk of acute myocardial infarction and sudden cardiac death in patients treated with cyclo-oxygenase 2 selective and non-selective non-steroidal anti-inflammatory drugs: nested case-control study

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Summary

Background Controversy has surrounded the question about whether high-dose rofecoxib increases or naproxen decreases the risk of serious coronary heart disease. We sought to establish if risk was enhanced with rofecoxib at either high or standard doses compared with remote non-steroidal anti-inflammatory drug (NSAID) use or celecoxib use, because celecoxib was the most common alternative to rofecoxib.

Methods We used data from Kaiser Permanente in California to assemble a cohort of all patients age 18-84 years treated with a NSAID between Jan 1, 1999, and Dec 31, 2001, within which we did a nested case-control study. Cases of serious coronary heart disease (acute myocardial infarction and sudden cardiac death) were risk-set matched with four controls for age, sex, and health plan region. Current exposure to cyclo-oxygenase 2 selective and non-selective NSAIDs was compared with remote exposure to any NSAID, and rofecoxib was compared with celecoxib.

Findings During 2 302 029 person-years of follow-up, 8143 cases of serious coronary heart disease occurred, of which 2210 (27.1%) were fatal. Multivariate adjusted odds ratios versus celecoxib were: for rofecoxib (all doses), 1.59 (95% CI 1.10-2.32, $p=0.015$); for rofecoxib 25 mg/day or less, 1.47 (0.99-2.17, $p=0.054$); and for rofecoxib greater than 25 mg/day, 3.58 (1.27-10.11, $p=0.016$). For naproxen versus remote NSAID use the adjusted odds ratio was 1.14 (1.00-1.30, $p=0.05$).

Interpretation Rofecoxib use increases the risk of serious coronary heart disease compared with celecoxib use. Naproxen use does not protect against serious coronary heart disease.

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