Arthritis drug celecoxib is shown to be as safe as ibuprofen and naproxen in a recent research

NEWS

Pain Management

New research suggests that celecoxib, a cyclooxygenase-2 (COX-2) inhibitor, is non-inferior to naproxen or ibuprofen regarding cardiovascular safety in patients who are suffering from arthritis. Osteoarthritis (OA) is the most common form of arthritis affecting worldwide, while rheumatoid arthritis (RA) is a type of chronic arthritis affecting joints. Rheumatoid arthritis is 2.5 times more common in women than men. Patients with RA are at an increased risk for heart disease. In the study by Nissen S E, et al., 90 percent of patients had OA and 10 percent had RA.

Researchers performed a double-blind, randomized control non-inferiority trial of 24,081 patients with OA or RA and a known history of cardiovascular events, such as nonfatal myocardial infarction, and nonfatal stroke. The study aimed to evaluate the cardiovascular safety of celecoxib compared with ibuprofen or naproxen among patients with arthritis and increased cardiovascular risk requiring treatment with a nonsteroidal anti-inflammatory drugs (NSAIDs). The patients were administered with a daily dose of 209±37 mg of celecoxib, 2045±246 mg of ibuprofen and 852±103 mg naproxen for a mean treatment duration of 20.3±16.0 months. Patients were followed for the mean follow-up of 34 months.

During the study, 68.8% of the patients stopped taking the drugs assessed in the study, and 27.4% of the patients discontinued follow-up. In the intention to treat analysis, a primary outcome event occurred in 188 patients in the celecoxib group (2.3%), 201 patients in the naproxen group (2.5%), and 218 patients in the ibuprofen group (2.7%) (hazard ratio for celecoxib vs. naproxen, 0.93; 95% confidence interval [CI], 0.76 to 1.13; hazard ratio for celecoxib vs. ibuprofen, 0.85; 95% CI, 0.70 to 1.04; $p<0.001$ for noninferiority in both the comparisons).

In on-treatment analysis, a primary outcome event occurred in 134 (1.7%) patients in the celecoxib group, 144 (1.8%) patients in the naproxen group, and 155 (1.9%) patients in the ibuprofen group (hazard ratio for celecoxib vs. naproxen, 0.90; 95% CI, 0.71 to 1.15; hazard ratio for celecoxib vs. ibuprofen, 0.81; 95% CI, 0.65 to 1.02; $p<0.001$ for noninferiority in both comparisons).

Comparative safety analysis showed that the risk of gastrointestinal events were significantly lower with celecoxib than with naproxen (P=0.01) or ibuprofen (P=0.002); the risk of renal events was significantly lower with celecoxib than with ibuprofen (P=0.004) but was not significantly lower with celecoxib than with naproxen (P=0.19).

Therefore, the PRECISION trial showed the noninferiority of moderate doses of celecoxib, as compared with naproxen or ibuprofen, with regards to cardiovascular safety, in patients requiring NSAIDs for the treatment of OA and RA.

Source:	*The New England Journal of Medicine*
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Authors:	Steven E. Nissen et al.