American Family Physician™
A peer-reviewed journal of the American Academy of Family Physicians February 1, 2004

Clinical Inquiries
FROM THE FAMILY PRACTICE INQUIRIES NETWORK

Are Selective COX-2 Inhibitors as Effective as NSAIDs in Patients with Rheumatoid Arthritis?

Searchable Question

How effective are selective cyclooxygenase-2 (COX-2) inhibitors in reducing the symptoms of rheumatoid arthritis when compared with nonselective nonsteroidal anti-inflammatory drugs (NSAIDs)?

Evidence-Based Answer

The efficacy of COX-2 inhibitors is similar to that of nonselective NSAIDs in reducing the symptoms of rheumatoid arthritis. [Strength of Recommendation: A]

Evidence Summary

Four randomized, double-blind, controlled trials[1-4] compared the COX-2 in-hibitors celecoxib (Celebrex), etoricoxib (Arcoxia), and rofecoxib (Vioxx) with the NSAIDs naproxen (Naprosyn) and diclof-enac (Voltaren). Both classes were found to have similar efficacy in nearly all outcomes in patients with rheumatoid arthritis *(see the table below)*. [References 1 through 4- Evidence level 1B]

Effectiveness of Selective COX-2 Inhibitors and Other NSAIDs in Adult Patients with Rheumatoid Arthritis

Outcome	*Trial, number of study participants, dosage comparison*				
	Collantes, et al., 2002[4] (n = 445)	Bombardier, et al., 2000[3] (n = 8,076)	Emery, et al., 1999[2] (n = 665)	Simon, et al., 1999[1] (n = 460)	Simon, et al.,1999[1] (n = 465)
	Etoricoxib (Arcoxia),* 90 mg once daily, versus naproxen (Naprosyn), 500 mg times daily	Rofecoxib (Vioxx), 50 mg once daily, versus naproxen, 500 mg two times daily	Celecoxib (Celebrex), 200 mg two times daily, versus diclofenac SR (Voltaren SR), 75 mg two times daily	Celecoxib, 200 mg two times daily, versus naproxen, 500 mg two times daily	Celecoxib, 100 mg two times daily, versus naproxen, 500 mg two times two daily
	--	Not assessed	--	--	--
	--	Not assessed	--	--	--
	--	Not assessed	--	--	--
	--	--	--	--	--
	--	--	--	Better with celecoxib	--
	--	--	--	Better with celecoxib	--
	--	Not assessed	--	--	--
	--	--	--	--	--

NOTE: Scales used for outcomes may not be similar between studies. For full details, see the additional table in the online version of this Clinical Inquiry, which is available at http://www.aafp.org/afp/20040201/fpin.html.

COX-2 = cyclooxygenase-2 inhibitors; NSAIDs = nonsteroidal anti-inflammatory drugs; - = no significant difference; ACR = American College of Rheumatology.

*-Not approved for use in the United States.

†-ACR-20 is a 20 percent clinical improvement in the tender and swollen joint count and in three of the following factors: patient's global assessment of disease activity, physician's global assessment of disease activity, patient's assessment of pain, degree of disability, and level of acute phase reactant.

Information from references 1 through 4.

Only one study[1] found significant differences in any outcomes. Patients randomized to the higher celecoxib dosage were more likely to be rated as improved on the patient's and physician's global assessments of disease activity than patients given naproxen (number needed to treat: approximately 10).

A study[5] comparing celecoxib with na-proxen in the treatment of rheumatoid arthritis or osteoarthritis found similar efficacy between the treatment groups; however, the results were not analyzed separately by arthritis type. [Evidence level 1B]

Recommendations from Others

The London-based National Institute for Clinical Excellence (NICE) recommends the use of COX-2 inhibitors over other NSAIDs only in patients with rheumatoid arthritis who have a high risk of serious gastrointestinal adverse effects.[6] NICE recommends against routinely prescribing COX-2 inhib-itors in patients with cardiovascular disease (because of a potentially increased risk of myocardial infarction) and patients taking low-dose aspirin (because the gastrointestinal protection of COX-2 inhibitors is reduced).

Clinical Commentary

Physicians can assure their patients with rheumatoid arthritis who are at increased risk of gastrointestinal ulcers that COX-2 inhib-itors are as beneficial as nonselective NSAIDs in ameliorating their symptoms. However, there is no clinical reason to routinely prescribe COX-2 inhibitors to patients who do not have an increased risk of ulcers.

John Smucny, M.D.
George Chai, MS-II
Department of Family Medicine
State University of New York Upstate Medical University
Syracuse, N.Y.

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Clinical Inquiries provide answers to questions submitted by practicing family physicians to the Family Practice Inquiries Network (FPIN). Members of the network select questions based on their relevance to family medicine. Answers are drawn from an approved set of evidence-based resources and undergo peer review. The strength of recommendations and the level of evidence for individual studies are rated using criteria developed by the Evidence-Based Medicine Working Group (http://www.cebm.net/levels_of_evidence.asp).

This series of Clinical Inquiries is coordinated for American Family Physician by John Epling, M.D., State University of New York Upstate Medical University, Syracuse, N.Y. The complete database of evidence-based questions and answers is copy-righted by FPIN.

Address correspondence by e-mail to John Smucny, M.D., smucnyj@upstate.edu. Reprints are not available from the authors.