Pak Heart J

NONSTEROIDAL ANTI-INFLAMMATORY DRUGS - NO MORE SAFE FOR CARDIAC PATIENTS

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This article may be cited as: Gul AM. Nonsteroidal anti-inflammatory drugs-no more safe for cardiac patients. Pak Heart J 2015;48(01): 1-2.

"A long habit of not thinking a thing wrong, gives it a superficial appearance of being right, and raises at first a formidable outcry in defense of custom. But the tumult soon subsides. Time makes more converts than reason." Thomas Paine Common Sense,1776.[1] This seems to also apply in nonsteroidal anti-inflammatory drugs (NSAIDs) wide spread use nowadays. These are one of the most widely prescribed drugs. NSAIDs improve mobility and quality of life and delay the need for opiates and strong analgesics with dependency properties.[2]

However this therapeutic efficacy comes at a price and the potential benefits may be outweighed by the risks, especially CVS side effects. Other side effects are platelet dysfunction, gastritis and peptic ulceration with bleeding (inhibition of PG and other effects, acute renal failure in susceptible individuals, sodium and water retention and edema, analgesic nephropathy, prolongation of gestation and inhibition of labor, hypersenstivity not related to immunologic mechanism but due to prostaglandin inhibition and GIT bleeding and perforation.[2]

VIGOR Trial, conducted in May,1999 reported 50% reduction of GIT side effects but a five fold increase in thrombo-embolic cardiovascular events primarily MI among Rofecoxib versus Naproxen.[3] Subsequent studies found Rofecoxib to be associated with significant increase in thrombotic events. Celocoxib Long-term Arthritis Safety Study (CLASS) even six month follow-up data revealed a fair amount of evidence that COX-2 inhibition was associated with increased CV risk.[4]

Zhang and colleagues in 2006 in a review and meta analysis of 114 clinical papers including 116094 patients revealed that Rofecoxib increased risk of Hypertension and renal dysfunction and Cardiac arrythmias including VF and VT cardiac arrest in low as well as high doses.[5]

Coxib and Traditional NSAID Trialist's Collaboration, CNT trial published in Lancet 2013, "The Vascular and GI effects of NSAIDs" selective verses non selective were compared. In 280 Trials NSAIDs vs. Placebo were compared in 124513 patientfor 68,342 person years. Major vascular events were increased by a third with Coxibs and Diclofenac. RR rate raio (1.41, CI 95% p=0.0036). Vascular deaths increased significantly by Coxibs and Diclofenac but not significantly by Ibuprofen and Naproxen. Naproxen although claimed in past to be the safest amongst the NSAIDs is now being challenged on different forums.[6]

The take home message is that lowest effective dose of NSAIDs should be used for the shortest period of time. Incase of chronic pain consider as required dosing

and review regularly. Advise patient regarding potential side effects and do what you can to minimise risks. Monitor BP, renal function and liver function in those on long term NSAID use and to avoid NSAIDs in patients with CAD and those multiple CV risk factors.

REFERENCES

1. Paine T. Common sense. 3rd ed. Philadelphia: Independence Hall Association; 1776.
2. Amer M, Bead VR, Bathon J, Blumenthal RS, Edwards DN. Use of nonsteroidal anti-inflammatory drugs in patients with cardiovascular disease: a cautionary tale. Cardiol Rev 2010;18:204-12.
3. Bombardier C, Laine L, Reicin A, Shapiro D, Burgos-Vargas R, Davis B, et al. Comparison of upper gastrointestinal toxicity of rofecoxib and naproxen in patients with rheumatoid arthritis. VIGOR Study Group.N Engl J Med 2000;343:1520-8.
4. Silverstein FE, Faich G, Goldstein JL, Simon LS, Pincus T, Whelton A, et al. Gastrointestinal toxicity with celecoxib vs nonsteroidal anti-inflammatory drugs for osteoarthritis and rheumatoid arthritis: the CLASS study: a randomized controlled trial. Celecoxib Long-term Arthritis Safety Study. JAMA 2000;284:1247-55.
5. Zhang J, Ding EL, Song Y. Adverse effects of cyclooxygenase 2 inhibitors on renal and arrhythmia events: meta-analysis of randomized trials. JAMA 2006:296;1619-32.
6. Bhala N, Emberson J, Merhi A, Abramson S, Arber N, Baron JA, et al. Vascular and upper gastrointestinal effects of non-steroidal anti-inflammatory drugs: meta-analyses of individual participant data from randomised trials. Lancet 2013;382:769-79.