Flurbiprofen:
A Review of its Pharmacological Properties and Therapeutic Use in Rheumatic Diseases

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Contents

Summary .................................................................................................................. 418
1. Pharmacology .................................................................................................. 420
   1.1 Anti-inflammatory Activity .............................................................................. 420
   1.2 Analgesic Effect ............................................................................................ 420
   1.3 Antipyretic Activity ....................................................................................... 420
   1.4 Effect on the Gastrointestinal Mucosa ........................................................... 421
   1.5 Effect on Platelet Function ............................................................................ 421
   1.6 Inhibition of Prostaglandin Biosynthesis ...................................................... 422
2. Pharmacokinetics ............................................................................................. 423
   2.1 Absorption ................................................................................................... 424
   2.2 Distribution .................................................................................................. 424
   2.3 Elimination .................................................................................................. 424
      2.3.1 Metabolism and Excretion ...................................................................... 424
      2.3.2 Half-life ................................................................................................. 425
   2.4 Plasma Concentration and Clinical Effects .................................................. 425
3. Therapeutic Trials ............................................................................................. 426
   3.1 Rheumatoid Arthritis .................................................................................... 426
      3.1.1 Open and Single-blind Studies ................................................................. 426
      3.1.2 Comparison with Placebo ....................................................................... 426
      3.1.3 Flurbiprofen Compared with Aspirin ...................................................... 427
      3.1.4 Flurbiprofen Compared with Indomethacin .......................................... 428
      3.1.5 Comparison with Other Non-steroidal Anti-inflammatory Drugs .......... 428
   3.2 Osteoarthritis ............................................................................................... 429
   3.3 Ankylosing Spondylitis .................................................................................. 430
Summary

Synopsis: Flurbiprofen, a phenylalkanoic acid derivative, is a non-steroidal anti-inflammatory, analgesic agent advocated for use in rheumatoid arthritis, degenerative joint disease, ankylosing spondylitis and allied conditions.

Published data suggest that flurbiprofen 120 to 150mg daily is comparable in effectiveness with therapeutic doses of aspirin (3 to 4g) in rheumatoid arthritis, but generally causes fewer side effects. Flurbiprofen 150 to 300mg appears to be comparable with 75 to 150mg of indomethacin in rheumatoid arthritis and degenerative joint disease, and comparable with phenylbutazone or indomethacin in ankylosing spondylitis. In comparison with other non-steroidal agents, flurbiprofen appears to be at least as effective as naproxen, ibuprofen or sulindac, but generally causes more side effects than these drugs. However, as no one of the non-steroidal anti-inflammatory agents is the most suitable drug for all patients requiring such therapy, flurbiprofen should be considered along with other drugs of its type in the arthritic patient.

Pharmacodynamic Studies: In experimental studies in animals, flurbiprofen has been shown to possess anti-inflammatory, analgesic and antipyretic activity. It is a particularly potent inhibitor of prostaglandin synthetase. In humans, flurbiprofen produced an improvement in thermographic index in rheumatoid arthritics, and a 25mg dose lowered body temperature for a longer period than a single 300mg dose of aspirin in patients with fever caused by various infections.

An endoscopic study in volunteers showed gastrointestinal damage caused by aspirin 2.1g daily to be more severe and extensive than that caused by flurbiprofen 300mg daily, phenylbutazone 600mg daily or placebo.

Flurbiprofen causes marked inhibition of the secondary phase of platelet aggregation induced by adenosine diphosphate and adrenaline as well as collagen-induced aggregation in vitro and in vivo. Generally, flurbiprofen has not been found to influence platelet adhesiveness and except in one study, there has been no prolongation of bleeding time.

Flurbiprofen is a potent non-selective inhibitor of prostaglandin biosynthesis in vitro and in vivo, due possibly to the inhibition of endoperoxidase, which catalyses conversion of arachidonic acid to cyclic endoperoxide. Like other commonly used non-steroidal anti-inflammatory agents, flurbiprofen inhibits prostaglandin synthesis in human rheumatoid synovium.

Pharmacokinetics: Flurbiprofen appears to be readily absorbed after oral administration, and plasma concentration is related to dosage in the range 15 to 150mg. Peak plasma concentration is about 12µg/ml after a 100mg dose and is usually attained 1.5 to 3 hours after ingestion. There are few data on the distribution of flurbiprofen in man, but a mean concentration of 1.92µg/ml was present in synovial fluid at 6 hours after ingestion of a single

1 ‘Froben’ (Boots).