A prospective, randomised clinical trial comparing oral diclofenac potassium and intramuscular diclofenac sodium in acute pain relief

MK Ho and CH Chung

Objectives: To compare the efficacy of oral (PO) diclofenac potassium (Cataflam®) and intramuscular (IM) diclofenac sodium (Voltaren®) in acute pain relief, with a hypothesis of equivalence between the two. Patients and methods: In this prospective randomised single center clinical study, adult Chinese patients attending the emergency department and suffering from renal colic, acute musculoskeletal injury or arthritis were enrolled. They were randomly assigned either 75 mg of IM Voltaren® or 75 mg of PO Cataflam®. Pain was assessed by the Visual Analogue Scale (VAS) and evaluations were performed at baseline, 30 minutes, 1 hour and 2 hours after treatment. Blood pressure, pulse rate and respiratory rate were also recorded at similar time intervals. Results: We recruited 46 cases in the Voltaren® group and 45 cases in the Cataflam® group. Both treatment groups showed statistically highly significant reduction (P<0.0001) in pain VAS, systolic blood pressure and pulse rate compared with the baseline. Voltaren® was statistically more effective in pain relief at 30 minutes (P=0.012) and 1 hour (P=0.010) but not at 2 hours (P=0.311) compared with Cataflam®. The changes in blood pressure, pulse rate and respiratory rate were not statistically significant between the two treatment groups at all time points. Conclusion: IM Voltaren® was more effective in acute pain relief compared with PO Cataflam®. (Hong Kong j.emerg.med. 2004;11:69-77)

Keywords: Analgesia, non-steroidal anti-inflammatory agents, pain measurement, urinary calculi, wounds and injuries