

## **A Prospective, Randomised Study on Comparing Etoricoxib plus Diclofenac versus Pethidine as Analgesia in Extracorporeal Shockwave Lithotripsy**

**Introduction and Objective:** Intravenous (IV) pethidine provides effective analgesia during ESWL, but its opioid nature is associated with adverse effects like nausea, giddiness, sedation, respiratory depression and hypotension. It has a half-life of 3-5 hours, and its metabolite, norpethidine, is neurotoxic, so prolonged monitoring is required after its usage. Using intramuscular (IM) diclofenac as an alternative spares these opioid adverse effects, but does not provide the same level of analgesia. We investigate if the combination of oral etoricoxib and IM diclofenac can substitute IV pethidine during ESWL.

**Materials and Methods:** Between April 2010 and March 2012, a total of 224 patients underwent ESWL using the same lithotripter by a single surgeon in our institution. These patients were randomized into 2 equal groups. Group A received oral etoricoxib 120mg at 2 hours and IM diclofenac 75mg immediately before ESWL. Group B received IV pethidine 50mg immediately before ESWL. All patients underwent ESWL as per a standard protocol. Variables like patients' age, gender, race, BMI; stones' size, number, location, radio-opacity; treatment duration, number of shocks, maximum energy level, average energy level, and whether treatment was a first or repeat session, were included in data analysis. At the end of treatment, the patients rated pain severity using a visual analogue scale from 0 to 10. Any unexpected events leading to premature termination of ESWL, such as intolerable pain during treatment, were recorded. Any analgesic adverse effects were recorded. Chi-square test and independent-samples T test were used to analyse non-parametric and parametric variables respectively.

**Results:** Both groups were similar in patients' age, gender, race; stones' size, number, location, radio-opacity; treatment duration, number of shocks, maximum energy level, average energy level, and whether treatment was a first or repeat session. The mean BMI for Group A and Group B was 27.0 and 25.5 respectively ( $p=0.007$ ). The mean pain score for Group A and Group B was 5.0 and 4.5 respectively, without statistical significance. Six patients from each group could not complete treatment due to intolerable pain. No patient suffered from analgesic adverse effects.

**Conclusions:** The combination of oral etoricoxib plus IM diclofenac can provide the same level of analgesia as IV pethidine during ESWL, and is not associated with any adverse effects. It avoids the potential neurotoxicity of pethidine and its metabolite, and reduces the need for prolonged monitoring after ESWL.