

# Comparison of the Therapeutic Effects of Rectal Diclofenac Sodium and Intramuscular Pethidine Injection in the Treatment of Acute Renal Colic: A Randomized Clinical Trial

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Abstract

**Objectives:** Renal colic is a type of abdominal pain commonly caused by obstructive stones. The aim of this study was to compare the safety and efficacy of rectal diclofenac sodium (RDS) and intramuscular pethidine (IMP) injection in acute renal colic.

**Materials and Methods:** In an interventional prospective double-blind randomized clinical trial, 541 patients who had referred to our center because of acute renal colic were divided into two groups: (1) RDS with 266 participants and (2) IMP with 275 participants. Pain relief was measured by asking the participants at 10, 20 and 30 minutes after taking each drug.

**Results:** In RDS group, analgesic effects of RDS were apparent in 121 participants (45.5%) after 10 min, in 191 participants (71.9%) after 20 min and in 233 participants (87.5%) after 30 min. 33 participants (12.5%) had no response to RDS. In IMP group, analgesic effects of IMP were apparent in 123 participants (44.7%) after 10 min, in 191 participants (69.5%) after 20 min and in 254 participants (92.3%) after 30 min. 21 participants (7.7%) had no response to IMP. Statistical analysis revealed that there was no significant difference between the two studied drugs in relieving renal colic pain ( $P=0.06$ ).

**Conclusion:** Although there was no significant difference in analgesic effect between the two drugs, using diclofenac sodium in suppository form is highly recommended for renal colic patients because of availability, being less expensive, safety, and its self-administration.

## Keywords

Renal colic; Diclofenac sodium; Pethidine; Analgesia