



A STUDY TO FIND THE EFFICACY OF PREGABALIN IN IMMEDIATE POST-OPERATIVE PAIN CONTROL

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ABSTRACT

Pregabalin is a structural analogue of the inhibitory neurotransmitter γ -amino butyric acid but it is not functionally related to it. Like its predecessor gabapentin it binds to the α -2- δ subunit of voltage-gated calcium channels reducing the release of several excitatory neurotransmitters and blocking the development of hyperalgesia and central sensitization. Pregabalin has anticonvulsant antihyperalgesic and anxiolytic properties similar to gabapentin, but it has a more favorable pharmacokinetic profile including dose-independent absorption. It is also several times more potent than gabapentin while producing fewer adverse effects. Recently it has been introduced as an adjunct in the multimodal management of postoperative analgesia. Recently the role as oral pre-emptive analgesic of pregabalin for postoperative pain relief has been reviewed. This study puts in a effort to find the efficacy of this drug in controlling the post-operative pain.

KEYWORDS : Pregabalin, efficacy, post-operative, analgesia, pain.

Introduction:

Opioids, NSAIDs & local anaesthetics were tools for dealing with acute pain and tricyclic antidepressants (TCAs) were used for chronic neuropathic conditions¹. Pregabalin is a structural analogue of the inhibitory neurotransmitter γ -amino butyric acid but it is not functionally related to it. Like its predecessor gabapentin it binds to the α -2- δ subunit of voltage-gated calcium channels reducing the release of several excitatory neurotransmitters and blocking the development of hyperalgesia and central sensitization². Pregabalin has anticonvulsant anti-hyperalgesic and anxiolytic properties similar to gabapentin, but it has a more favorable pharmacokinetic profile including dose-independent absorption³. It is also several times more potent than gabapentin while producing fewer adverse effects. Recently it has been introduced as an adjunct in the multimodal management of postoperative analgesia. Recently the role as oral pre-emptive analgesic of pregabalin for postoperative pain relief has been reviewed^{4,5}. With the concept of pre-emptive analgesia for control of acute postoperative pain our primary aim was to evaluate postoperative analgesic benefit in patients administered pregabalin or placebo as oral premedication for below umbilical surgeries performed under SAB & to study its postoperative efficacy with respect to duration of analgesia, total postoperative requirement of analgesics and to study side effects, if any, attributable to pregabalin.

Aims and Objectives:

To study the efficacy of pregabalin in immediate post-operative pain control.

Materials and Methods:

This study was done in the Department of Anesthesia in A.J.Institute of Medical Sciences

This study was done using 60 patients. They were divided into two groups. Group one was given a placebo and group 2 were given the pregabalin.

The study was done from July 2017 to June 2018.

Inclusion Criteria

1. The patients were aged between 30-50 years
2. The patients had no co-morbidities

Exclusion Criteria

1. Aged below 30 and above 50 years
2. Patients with co-morbidities

All the statistics were done using the SPSS software 2015 (California)

Results:

Table 1: Duration of Analgesia

Group	Group 1	Group 2
Mean time	230.64 minutes	567.84 minutes
Standard deviation	29.8 minutes	48.74 minutes
P-Value	0.00023 (<0.05)	

So it is highly significant.

Table 2: Mean dose

Group	Group 1	Group 2
Mean dose	5.8 doses	2.4 doses
Standard deviation	1.6 doses	0.2 doses
P-Value	0.00044 (<0.05)	

This is also highly significant.

Discussion:

When comparing the drug with the placebo it is obviously the superior choice. Below umbilical surgeries are performed under subarachnoid block being simple & economical technique with complete muscle relaxation. It is advantageous due to high efficacy with less drug doses and less chances of aspiration pneumonitis. Due to its limitations in the form of lesser control of block height & limited duration of analgesia researchers have used battery of drugs intrathecally like vasoconstrictors, (epinephrine) opioids, (fentanyl, buprenorphine) benzodiazepines, (midazolam) ketamine and many others as adjuvant to local anaesthetics to prolong the duration of sensory block & achieve longer perioperative analgesia^{6,7}. But each of this adjuvant has certain limitations of their own hence search for better options for acute postoperative analgesia research is still continuing. The concepts like preemptive and multimodal analgesia could be the fruitful results of it. Poorly controlled postoperative results in harmful acute effects (adverse physiologic response) & chronic effects (delayed recovery) and chronic pain syndrome. Provision of effective pain relief is a prerequisite accelerated convalescence. Previously the drugs used for acute & chronic pain were categorically different. Opioids, NSAIDs & local anaesthetics were tools for dealing with acute pain and tricyclic antidepressants (TCAs) were used for chronic neuropathic conditions.

Two comparative studies gabapentin v/s pregabalin using single oral pre-emptive drug for infraumbilical surgeries under SAB, for evaluation of their comparative efficacy in terms of a cute postoperative analgesic benefits with rescue analgesic as diclofenac have shown similar results to our study.^{8,9}

Conclusion:

Pregabalin, given preoperatively prolongs the total postoperative

analgesia duration, reduce analgesic requirements without significant side effects.

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