

KEYWORDS : Preemptive analgesia; Pregabalin; Spinal Anaesthesia; Post-operative pain; Visual Analogue Scale; Laprotomy

DISCUSSION

INTRODUCTION

Pain is a consistent and cardinal complaint of most individuals following surgical interventions. Failure to alleviate pain is morally and ethically intolerable. Effective post-operative pain control is still a major challenge to the anaesthesiologists worldwide and in majority of the cases it is poorly treated.1,2

Early post-operative pain is the most common complaint and also one of the prime reasons for prolonged post-surgical convalescence. Consequently, optimal post-operative pain alleviation is vital, as it allows early mobility, better functional recovery, and significant reduction in morbidity and mortality, post-operatively.

Pregabalin is a y-aminobutyric acid(GABA) analog that binds presynaptically to the $\alpha 2$ - δ subunit of voltage-dependent calcium channels, which triggers a decline in neuronal hyperexcitability due to the reduction in the release of several excitatory neurotransmitters.³ Numerous studies had been done with different doses of, preoperatively administered oral pregabalin, showing their effectiveness in mitigating post-operative pain.⁴⁻⁹ But the optimal pre-emptive pain relieving dose of pregabalin still eludes us.

This study was therefore designed to find out the ideal dose of oral pregabalin, given pre-emptively for post-operative pain relief, by comparing its varying doses in patients undergoing infraumbilical laprotomy under spinal anaesthesia.

MATERIALAND METHODS

30 patients of either sex, between 18-65 years, of ASA physical status (PS) 1-2, who were scheduled for infraumbilical laprotomy under spinal anaesthesia and were willing and able to give written informed consent, were enrolled.

30 patients were allocated by means of sealed, sequentially numbered, opaque envelopes into two groups of 15 each. Group A received single administration of 75mg of oral pregabalin and Group B received single administration of 150 mg of oral pregabalin.

Postoperatively, after shifting the patient to Post Anaesthesia Care Unit (PACU), the following datas were recorded by the staff nurse in PACU, who was unaware of the allocated group of the patient: Time taken from giving spinal anaesthesia to two segment regression of sensory blockade (in minutes) from its peak dermatomal level, which was assessed by pin prick method. Time from spinal anaesthesia to first VAS score >3 (time taken to administer rescue analgesics in minutes).

RESULTS Time to 2 segment regression&Time to first VAS score >3



*Significant at the level of P<0.05 using Student T-test

28

pharmacokinetics, that makes it easier for its use clinically. When given orally pregabalin shows a faster and extensive absorption in a fasting state, with maximum plasma concentration at approximately 1hour after a single or multiple administrations, with a steady state achieved in 24-48 hours after repeated dosages.¹ Recently numerous trials had been done, studying extensively the

Pregabalin is known to have a largely predictable and linear

effectiveness of varying doses of oral pregablin in alleviating postoperative pain when given pre emptively, with conflicting results.¹ Hence, the optimal pre emptive analgesic dose of pregabalin still eludes us. Since no study had been done comparing oral pregablin dose of 75mg and 150 mg in patients undergoing spinal anaesthesia, we designed this study to find out the optimal dose of pre-operatively given pregabalin for post-operative pain relief in these subjects. As increased incidence of side effects such as dizziness and sedation were noticed with higher doses of pregabalin, we omitted those from our study '

In our study we observed that the mean time taken from giving spinal anaesthesia to two dermatome regression of sensory block from its highest level, was significantly prolonged in pregabalin 150 mg group when compared to pregabalin 75mg. In infraclavicular nerve blocks the pre-operative use of pregabalin resulted in early motor block along with a prolonged sensory blockade.

CONCLUSION

Hence, after considering the clinical effectiveness pregabalin 150 mg may be the optimal pre emptive analgesic dose for infraumbilical laprotomy under spinal anaesthesia.

REFERENCES

- Agarwal A, Gautam S, Gupta D, Agarwal S, Singh PK, Singh U. Evaluation of a single 1. preoperative dose of pregabalin for attenuation of postporentive pain after laparoscopic cholecystectomy. Br J Anaesth 2008 Nov;101(5):700–4.
- Gottschalk A, Smith DS. New concepts in acute pain therapy: preemptive analgesia. Am 2. Fam Physician 2001 May 15;63(10):1979–84. Ben-Menachem E. Pregabalin pharmacology and its relevance to clinical practice.
- 3 Epilepsia 2004;45 Suppl 6:13-8
- Akhavanakbari G, Entezariasl M, Isazadehfar K, Mirzarahimi T. The effects of oral 4 pregabalin on post-operative pair of lower limb orthopedic surgery: A double-blind, placebo-controlled trial. Perspect Clin Res 2013 Jul 1;4(3):165.
- 5. Saraswat V, Arora V. Preemptive Gabapentin vs Pregabalin for Acute Postoperative Pain Sanabar (, non i Friendance Guagpelani of Fregotamion feature assoptiation (2008) after Surgery under Spinal Anaesthesia. Indian J Anaesth 2008 Nov 1;52(6):829. Kohli M, Murali T, Gupta R, Khan P, Bogra J. Optimization of subarachanoid block by oral pregabalin for hysterectomy. J Anaesthesiol Clin Pharmacol 2011 Jan;27(1):101–5. Eskandar AM, Ebeid AM. Effect of pregabalin on postoperative pain after shoulder 6.
- 7 arthroscopy. Egypt J Anaesth 2013 Oct; 29(4): 363-7. 8
- Sebastian B, Talikoti AT, Nelamangala K, Krishnamurthy D. Effect of Oral Pregabalin as Preemptive Analgesic in Patients Undergoing Lower Limb Orthopedic Surgeries
- under Spinal Anaesthesia. J Clin Diagn Res 2016 Jul; 10(7): UC01–4. Das T, Mohanty R, Routray SS, Debata D. Effect of Different Doses of Pre-Emptive Pregabalin for Attenuation of Postoperative Pain after Cholecystectomy. Sch J App Med 9. Sci 2017 Feb;5(2C):517-22.

INDIAN JOURNAL OF APPLIED RESEARCH