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PRE-EMPTIVE USE OF GABAPENTIN FOR POST OPERATIVE ANALGESIA AS COMPARED TO PLACEBO: A PROSPECTIVE RANDOMIZED DOUBLE BLIND STUDY

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ABSTRACT

Post-operative pain is not purely nociceptive in nature and may consist of inflammatory, neurogenic, and visceral components. Therefore, multimodal analgesic techniques utilizing a number of drugs acting on different analgesic mechanisms are becoming increasingly popular. Study was conducted during 1/9/2013 to 28/2/2015 after getting approval from Ethical Committee. 60 consenting patients who received general anaesthesia were randomized into 2 groups of 30 each. Group A (Study) received Capsule Gabapentine 600 mg orally 1 hour before surgery while Group B (control) received Capsule Placebo. ASA risk I and II patients, between age group of 20-60 years, undergoing elective general surgical procedures of not more than 4 hours were included in the study. Pain scores were determined by VAS score and sedation by Ramsay Sedation Score. Time of 1st supplemental analgesia was recorded and Inj. Diclofenac 75 mg i.v. was given as rescue analgesic. Statistical analysis of the gathered data was done using p value and Chi^2 test by the Medcalc software. Patients receiving gabapentin showed significantly longer mean time of 1st analgesic requirement and more level of sedation upto 4 hours post operatively. Preemptive use of gabapentin significantly decreases the post-operative pain and rescue analgesic requirement in patients undergoing abdominal surgery under general anesthesia.

Key words: Gabapentin, preemptive analgesia, general anaesthesia, post operative pain.

INTRODUCTION

Post-operative pain is not purely nociceptive in nature and may consist of inflammatory, neurogenic, and visceral components. Therefore, multimodal analgesic techniques utilizing a number of drugs acting on different analgesic mechanisms are becoming increasingly popular [1].

METHODS

Study was conducted during 1/9/2013 to 28/2/2015 after getting approval from Ethical Committee. 60 consenting patients who received general anaesthesia were randomized into 2 groups of 30 each. Group A (Study) received Capsule Gabapentine 600 mg orally 1 hour before surgery while Group B (control) received Capsule Placebo. ASA risk I and II patients, between age group of 20-60 years, undergoing elective general surgical procedures of not more than 4 hours were included in the study. Pain scores were determined by VAS score and sedation by Ramsay Sedation Score. Time of 1st supplemental analgesia was recorded and Inj. Diclofenac 75 mg i.v. was given as rescue analgesic. Statistical analysis of the gathered data was done using p value and Chi^2 test by the Medcalc software [2].

RESULTS

Patients receiving gabapentin showed significantly longer mean time of 1st analgesic requirement in post operative 24 hrs period, lower post operative VAS

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scores after 2 hours and upto 24 hours post operatively. Also, there was more level of sedation upto 4 hours post operatively in study group with minimal side effects.

Table 1. Post Operative VAS Score

Time in Hours	Group G		Group P		P Value
	Mean	SD	Mean	SD	
0	2.57	1.19	4.97	1.61	<0.0001
0.5	2.97	1.19	4.00	0.95	<0.05
1	2.67	0.99	3.23	0.50	<0.05
2	2.97	1.22	2.93	0.78	>0.05
4	2.00	0.91	2.97	0.85	<0.0001
6	1.77	0.97	3.67	0.99	<0.001
12	2.27	0.94	2.97	1.03	<0.05
24	2.40	0.97	2.80	0.55	<0.05

Table 2. Ramsay Sedation Score

Time in Hours	Group G		Group P		P Value
	Mean	SD	Mean	SD	
0	2.60	0.50	2.23	0.43	<0.01
0.5	2.50	0.51	2.07	0.25	<0.01
1	2.27	0.45	2.07	0.25	<0.05
2	2.23	0.43	2.03	0.18	<0.05
4	2.20	0.41	2.03	0.18	<0.05
6	2.00	0.00	2.00	0.00	-
12	2.00	0.00	2.00	0.00	-
24	2.00	0.00	2.00	0.00	-

Fig 1. Mean Time of First Analgesic Requirement

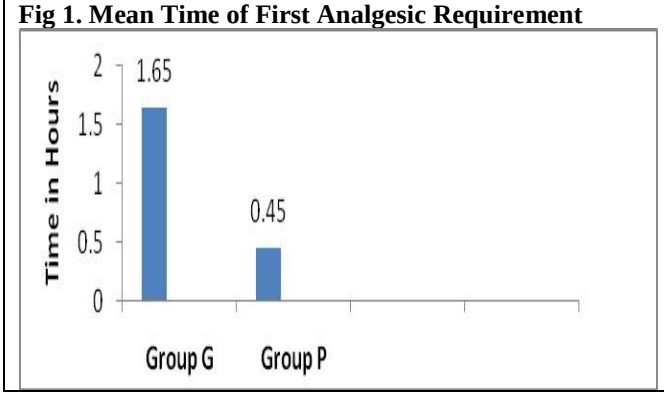
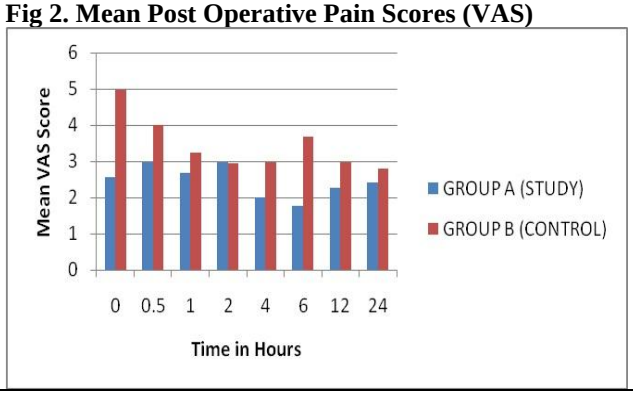


Fig 2. Mean Post Operative Pain Scores (VAS)



CONCLUSION

Preemptive use of gabapentin significantly decreases the post-operative pain and rescue analgesic requirement in patients undergoing abdominal surgery under general anesthesia.

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CONFLICT OF INTEREST:
The authors declare that they have no conflict of interest.

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