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RESEARCH ARTICLE

COMPARISON OF TWO DIFFERENT DOSES OF ORAL GABAPENTIN FOR POST OPERATIVE ANALGESIA IN LOWER LIMB SURGERY UNDER SPINAL ANAESTHESIA

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Post-Operative Analgesia, Pre-Emptive Analgesia, Spinal Anaesthesia, Oral Gabapentin

Abstract

Background: Pre-emptive analgesia is a technique of pain control where treatment is initiated before intervention and operational during the surgical procedure in order to reduce the physiological consequences of nociceptive transmission provoked by the procedure. Gabapentin has demonstrated analgesic effects in clinical trials as a preemptive analgesic in acute postoperative pain management with very few side effects. Owing to the protective effect of gabapentin on the nociceptive pathways, preemptive analgesia has the potential to be more effective and hence reduce postoperative pain and development of chronic pain.
Objective: We therefore designed this study to compare two different doses of Oral Gabapentin (300mg and 600mg) given as pre-emptive analgesic for post-operative pain relief in lower limb surgeries under spinal anaesthesia.
Method: After the approval from ethical committee this prospective randomized double blinded clinical study was conducted over a period of two years in department of anaesthesia in M.G.M.' s medical college, Aurangabad. Randomly allocated two groups were given Oral Gabapentin 300mg and 600mg respectively, one hour prior to giving spinal anaesthesia for post operative analgesia in lower limb surgeries.
Conclusion: There is no statistically significant difference between group G300 (gabapentin 300mg) and group G600 (gabapentin 600mg) regarding age, gender, duration of analgesia (i.e. demand for first rescue analgesic), total dose of analgesics in first twenty four hours after surgery, duration of sensory block (i.e. L1 regression), highest ramsay sedation score and VAS scores. No significant difference was seen in case' s hemodynamic stability and incidence of side effects.

Introduction:-

Pain, which is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, is a prominent and consistent complaint following surgical procedures.[1] It is a major obstacle that prevents the early mobilization of the patient. Therefore, prevention and treatment of pain takes top-most priority.

Pre-emptive analgesia is a technique of pain control where treatment is initiated before intervention and operational during the surgical procedure.The pre-emptive treatment could be directed at the periphery, at inputs along sensory axons and at central neurons. Different treatment regimen could be used at different levels of sensory inputs [2,3]. Non-steroidalAnti-Inflammatory Drugs (NSAIDs), opioids, ketamine, systemic antiepileptics (pregabalin, gabapentin) and local anaesthetics (neuraxial administration, peripheral nerve blocks, wound infiltration) are co

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on presynaptic voltage gated Ca channels in the dorsal root ganglia of spinal cord [5] it has demonstrated analgesic effects in clinical trials as a preemptive analgesic in acute postoperative pain management and preventing development of chronic pain,with very few side effects. [6]

We therefore designed this study to compare two different doses of Oral Gabapentin (300mg and 600mg) given as pre-emptive analgesic for post-operative pain relief in lower limb surgeries under spinal anaesthesia.

Primary outcome of the study will be to compare total duration of analgesia and total doses of analgesics required in first 24 hrs. Secondary outcome of our study will be to compare block characteristicsand compare side effects if any.

Material and Methods:-

EthicalConsideration:

After the approval from ethical committee this prospective randomized double blinded clinical study was conducted over a period of two years in department of anaesthesia in M.G.M.'s medical college, Aurangabad. This study was approved by the Institution Ethics Committee Reference No.: MGM-ECRHS/2018/31 and written informed consent was obtained from all subjects participating in the trial. Thistrialwasregistered underCTRI- CTRI/2019/01/017145

Study Population:

All the patients admitted to MGM Hospital for Lower Limb surgeries.

Study Duration:

2 Years

SampleSize:

Thesamplesizewascalculatedasfollows:

$$n=\frac{2S^2(Z1+Z2)^2}{D^2}$$

M1: Mean test intervention = 6.90 M2:Meancontrolintervention=2.30 S1: Standard deviation ofM1 = 0.45 S2: Standard deviation ofM2 = 0.25

S:Pooled S.D=0.36401

Z1:Zvalueassociatedwithalpha=2.32635 Z2: Z value associated with beta = 1.28155 D: Absolute precision = 0.375

N2:MinimumSampleSize=11

The power analysis indicated that the studyshould include at least 11 patients in each group. Considering the drop outs; we observed 20 patients for each group.

Inclusioncriteria

1. Patientsreceivingspinalanaesthesia forelectivelowerlimbsurgeries.
2. Bothmale &female patientsofage group18to65years.

ASAI&II.

Exclusioncriteria

1. PatientswithallergytoGabapentin.
2. Patientssufferingfromepilepsy,liver&renaldisease,anychronicpainsyndrome,psychiatric illness.

3. Patientsrequiring surgicalduration morethan3hrs.

Methodology:-

Patients were seen a day prior for Pre-Anaesthetic Checkup (PAC). VAS score and the study was explained to the patient and an informed consent was taken. They were kept NBM for six hours prior to the procedure. The patients were randomly allocated in two groups using sealed envelope method.
Group G1: Received Tab Gabapentin 300 mg
Group G2: Received Tab Gabapentin 600 mg with sip of water one hour prior to spinal anesthesia.

The preoperative vital parameters like pulse rate (PR), blood pressure (B.P.), oxygen saturation (SPO2) were noted before giving spinal anesthesia. An Intravenous line was secured with 20 G intravenous cannula and an infusion of 500ml ringer lactate was given as co-loading dose over 20 mins.

Under all aseptic precautions spinal anesthesia was given in sitting position in L3-L4 space with 23G Quincke spinal needle and Injection (Inj.) Bupivacaine 0.5 % heavy 3.5 cc.

Sensory block was tested by cold spirit cotton swab in midaxillary line every 3 mins till peak sensory level i.e. two consecutive reading at the same dermatomal level was achieved. Thereafter sensory block was tested every 15 mins till the block regressed to L1 level. The time from spinal injection (T-0) to time taken to achieve T10 level was taken as onset of sensory blockade. Highest level of sensory block was noted. The time from T-10 to L1 regression was taken as total duration of sensory block. Surgery was allowed after achieving sensory block up to T10.After administering spinal anaesthesia, pulse rate and blood pressure (mean) were recorded every 3 mins for first 30 mins. Thereafter vitals were recorded every 15 min till the end of surgery. Fall of systolic arterial pressure by more than 20% of base line was taken as hypotension and treated with Inj.Mephentermine 3 mg intravenously. Fall in pulse rate to less than 50 was taken as Bradycardia and treated with Injection Atropine 0.6mg IV. Subjects requiring intra-operative analgesics were excluded from the study. Ramsay sedation score was seen every 15 min after intrathecal injection of the drug during intraoperative period.Post operatively, Rescue Analgesic was given when VAS score was more than 4 or as per patient's demand. Patient's VAS score was assessed before administering the rescue analgesic. Inj. Tramadol 50 mg was given in 100 ml Normal saline drip for a period of 20 mins along with Inj. Ondansetron 4mg IV as rescue analgesic. Total duration of analgesia was noted as time of intrathecal injection to time of first request of analgesic drug. Next analgesic dose was given as per the demand of the patient.

Blinding Method:
It was a double blind study. One anaesthesiologist administered the drug intrathecally while another anaesthesiologist (observer) who was blind to the drug administered, recorded the findings.

Method of Randomization:
Sealed Envelope Method

Statistical Analysis
The data was compiled in master chart i.e. in MS-EXCEL Sheet and for analysis of this data; SPSS (Statistical package for social sciences) Version 24th was used.

Frequencies and percentages were calculated for qualitative data.

For quantitative data mean & SD was calculated and represented on appropriate visual impression like bar-diagram & Pie-Diagram etc. For comparison of two groups paired t-test was applied. The significance level of this test was checked at 0.05.

Results:-

Table 1:- Distribution of patients according to Age.

Age(InYears)	GROUPG300 Range-(19-65)		GROUPG600 Range-(18-60)		t-Value	p-Value
	N	%	N	%		

16-25	07	35	09	45		
26-35	05	25	05	25		
36-45	03	15	02	10		
46-55	01	05	02	10		
56-65	04	20	02	10		0.2925
Total	20	100	20	100	1.0674	NotSig.
Mean±SD	36.25±15.6		31.5±13.65			p>0.05

The two groups were comparable regarding the age of the patients

Table 2:- Distribution of patients according to Sex.

	GROUPG300		**GROUPG600**		**χ2-Value**	**p - Value**
Sex	**N**	**%**	**N**	**%**		
Male	17	85	19	95		0.2981
Female	03	15	01	05	1.1111	Not Sig.
Total	20	100%	20	100%		p>0.05

The two groups were comparable regarding the gender of the patients

Table 3:- Comparison of Duration of Analgesia i.e. First Analgesic Required (In Min) between two groups.

Timeof Onset	**GROUPG300**	**GROUPG600**	**t-value**	**p-Value**
N	20	20	0.9376	p=0.3544
Mean±SD	287±26.97	279.5±23.5		NotSig.
				p>0.05

The Mean±SD of First analgesic required after surgery for G300 is 287±26.97 and G600 is 279.5±23.5. The two groups showed no statistically significant difference in the requirement of first analgesic after surgery.

Table 4:- Distribution of patients according to Total number of Analgesic in 24 Hrs.

Total number of Analgesicin 24 Hrs.	**GROUPG300**		**GROUPG600**		**χ2-Value**	**p-Value**
	N	**%**	**N**	**%**		
2	07	35	04	20		
3	11	55	10	50		
4	02	10	06	30		
Total	20	100%	20	100%		
Mean±SD	2.75±0.64		3.10±0.71			0.2386
Median (IQR)	03 (2.0-30)		03 (3.0-40)		2.8658	NotSig.
						p>0.05

Mean±SD for G300 is 2.75±0.64 whereas for G600 is 3.10±0.71. There is no statistically significant difference between the two groups regarding the total number of analgesics required in first 24 hours after surgery.

Table 5:- Comparison of Duration of Sensory Block (L1 regression) (Mins) between two groups.

DurationofSensoryBlock (L1regressionin mins)	**Group G300**	**Group G600**	**t-value**	**p-Value**
N	20	20	0.8215	p=0.4165
Mean±SD	239±22.45	233.5±19.80		NotSig.
				p>0.05

Mean±SD of duration of sensory block for G300 is 239±22.45 and G600 is 233.5±19.80. There is no statistically significant difference between the two groups regarding the duration of sensory block.

Table 6:- Distribution of patients according to Highest Ramsay Sedation Score.

	GROUPG300	**GROUPG600**

VAS Score one Hour after Gabapentin	GROUPG300	GROUPG600	z-value	p-Value
N	20	20	0.4463	p=0.6572 NotSig. p>0.05
Median	05	05		
InterquartileRange (IQR)	4.0-5.75	3.0-5.75		
Mean±SD	4.80±1.39	4.60±1.39		

Ramsay SedationScore	N	%	N	%
01	00	00	00	00
02	20	100	20	100

Table 7:- Comparison of VAS Score before Gabapentin between two groups.

The two groups were comparable regarding the Ramsay sedation score.

Table 8:- Comparison of VAS Score one hour after Gabapentin between two groups.

Ramsay SedationScore	GROUPG300		GROUPG600	
	N	%	N	%
01	00	00	00	00
02	20	100	20	100

Mean±SD for G300 is 6.10±1.33 and Mean±SD for G600 is 6.45±1.39. There was no statistically significant difference between the two groups regarding VAS score before Gabapentin.

Mean±SD for G300 is 4.80±1.39 and Mean±SD for G600 is 4.60±1.39. There was no statistically significant difference between the two groups regarding VAS score one hour after Gabapentin.

Table 9:- Comparisons between Heart Rates per minute at different time (Minutes) in two Groups.

Heart Rates	GROUPG300 Mean±SD	GROUPG600 Mean±SD	t-value	p-value
Aftergiving spinal anaesthesia (0mins)	72.5±12.2	88.2±19.4	3.04	0.005Sig.p<0.05
3	71.2±11.8	88.0±19.7	3.29	0.003Sig.p<0.05
6	70.5±13.6	88.4±20.6	3.24	0.003Sig.p<0.05
9	71.0±13.7	85.0±16.3	2.94	0.006Sig.p<0.05
12	69.5±12.4	82.2±17.7	2.64	0.012Sig.p<0.05
15	71.0±13.6	82.7±18.8	2.26	0.031Sig.p<0.05
18	69.3±14.2	68.7±13.7	0.15	0.884NotSig.p>0.05
21	69.7±15.2	84.2±18.0	2.76	0.009Sig.p<0.05
24	68.7±13.7	82.0±18.2	2.63	0.013Sig.p<0.05
27	67.9±13.6	80.0±15.9	2.60	0.013Sig.p<0.05
30	66.5±12.9	78.0±14.8	2.58	0.014Sig.p<0.05
45	71.3±15.3	74.8±15.3	0.69	0.495NotSig.p>0.05
60	68.7±16.4	75.3±15.0	1.19	0.245NotSig.p>0.05
75	65.9±10.9	71.0±15.6	0.92	0.368NotSig.p>0.05
90	64.38±9.15	69.4±16.1	0.83	0.418NotSig.p>0.05
115	63.5±6.03	71.8±11.6	1.38	0.216NotSig.p>0.05

There is a significant difference in the HR upto 15 mins and then at 21-30 mins after spinal anaesthesia as p value <0.05, but at 18 mins and then from 45-115 mins no significant difference is seen in HR between group G300 and group G600.When compared with each other, the overall intraoperative heart rate values of patients is comparable in both the groups.

Table 10:- Comparisons between Mean Arterial Pressure per minute at different time (Minutes) in two Groups.

Mean Arterial Pressure	GROUPG300	GROUPG600	t-value	p-value
	Mean±SD	Mean±SD		
Aftergiving spinal anesthesia (0mins)	84.9±11.1	85.05±8.04	0.05	0.961NotSig.p>0.05
3	84.0±11.2	83.15±8.53	0.25	0.801NotSig.p>0.05
6	83.5±12.2	80.9±9.72	0.73	0.470NotSig.p>0.05
9	83.0±12.7	81.2±10.1	0.52	0.604NotSig.p>0.05
12	80.5±11.0	79.0±10.5	0.41	0.684NotSig.p>0.05
15	82.0±12.5	81.1±10.2	0.25	0.804NotSig.p>0.05
18	81.4±12.0	79.9±9.03	0.45	0.659NotSig.p>0.05
21	79.0±11.3	79.9±7.91	0.28	0.784NotSig.p>0.05
24	79.7±12.2	79.5±7.21	0.06	0.950NotSig.p>0.05
27	80.3±11.3	79.15±8.92	0.38	0.708NotSig.p>0.05
30	82.2±11.4	80.2±10.1	0.58	0.565NotSig.p>0.05
45	82.2±10.1	79.5±8.74	0.84	0.407NotSig.p>0.05
60	83.8±11.6	83.82±9.41	0.01	0.995NotSig.p>0.05
75	84.4±13.2	84.1±10.7	0.06	0.951NotSig.p>0.05
90	85.4±13.2	86.10±6.95	0.14	0.891NotSig.p>0.05
115	91.5±14.9	84.4±9.18	0.83	0.451NotSig.p>0.05

The intraoperative mean arterial pressure values of patients show no significant difference in both the group as the p value is >0.05.

Table 11:- Comparison of incidence of Side Effects between two groups.

Sr. No.	SideEffects	G300	G600
1.	Dizziness	0	0
2.	Drowsiness	0	0
3.	Lethargy	0	0
4.	Lossofco-ordination	0	0

Discussion:-

Preemptive analgesia is a treatment for pain that is started before and is ongoing during the surgery in order to decrease the physiologic consequences of nociceptive transmission caused by the procedure[12]. It leads to decreased pain intensity and lower analgesic consumption, even after the analgesic effects of the drug has worn off[12]. It subsequently results in reduction of immediate post-operative pain and prevention of development of chronic pain[12]. Owing to this protective effect, we decided on administering gabapentin pre-emptively, 1 hour before performing spinal anaesthesia, to study its effect on immediate post-operative pain relief in patients undergoing lower limb orthopedic surgeries.

In our study, we analyzed and compared the effect of preemptive use of oral gabapentin 300mg and 600mg on duration of analgesia as seen by requirement of rescue analgesic, total number of analgesics required in first 24 hours after surgery, duration of sensory block as seen by regression of spinal block to L1, preoperative assessment of VAS score before and 1 hour after consumption of gabapentin, intraoperative assessment of Ramsay sedation score, effects of the drug on hemodynamic stability and its side effects.

Duration of analgesia as seen by first analgesic requirement in groups G300 and G600 – In our study, the mean duration of first rescue analgesic is 287±26.97 minutes and 279.5±23.5 minutes respectively.

PanahKhahi[9] et al compared 2 groups namely treatment group (gabapentin 300mg) and placebo group in lower limb orthopedic surgery under spinal anaesthesia. The treatment group showed Mean±SD as 4±1.96 hours (240±117.6 mins), whereas in our study, the mean duration of first rescue analgesic is 287±26.97 mins. Utsav Acharya[19] et al demonstrated that the mean duration of post-operative analgesia in group A (gabapentin 300mg) was 234±97 mins whereas in our study, the mean duration of first rescue analgesic is 287±26.97 mins.Hansraj Baghel[16] et al compared group G (gabapentin 300mg) and group C (clonidine 100mcg) to study their role in post-operative pain relief in lower limb surgeries under spinal anaesthesia. The mean duration of first rescue analgesic for group G was 9.02 hours (541.2 mins) whereas in our study, the mean duration of first rescue analgesic is 287±26.97 mins.These studies are similar to our study.

Gunavathi[13] et al compared Group G (gabapentin 300mg) and Group P (placebo) in total abdominal hysterectomies under spinal anaesthesia and concluded that Group G showed 183±19.81 minsas first analgesic requirement post-operatively whereas in our study, the mean duration of first rescue analgesic is 287±26.97 mins. This finding is not similar to the finding in our study because the dose of spinal drug in this study was 4ml hyperbaric bupivacaine whereas in our study the drug used was 3.5ml of hyperbaric bupivacaine. They premedicated the patients with ranitidine 50mg and metoclopramide 10mg I/V whereas we did not use any pre-medication.Sidharth Sraban[15]et al showed the mean requirement of first analgesic demand in group B (gabapentin 600mg) as 302±24.2 mins in elective surgeries under spinal anesthesia whereas in our study, the mean duration of first rescue analgesic is 279.5±23.5 minutes. Usha Bafna[10] et al compared group A (placebo) with group B (gabapentin 600mg) in elective gynecological surgeries under spinal anaesthesia. The first rescue analgesic was administered on demand and the VAS score was assessed at the time of analgesic administration. They demonstrated that the mean first analgesic requirement for group B was 302±24.2 whereas in our study, the mean duration of first rescue analgesic is 279.5±23.5 minutes. Smita Musti[14] et al compared two groups group G (gabapentin 600mg) and group C (vitamin C) in lower abdominal surgeries under spinal anaesthesia. The mean duration of first analgesic requirement for group G was 7.12±2.14 hours (427.2±128.4 mins) whereas in our study, the mean duration of first rescue analgesic is 279.5±23.5 minutes.These studies are not similar to our study.

Roshan Lal Gogna[18] et al demonstrated that the mean duration of analgesia or the first analgesic requirement in group A (gabapentin 600mg) was 288.79±38.81 mins. In this study, rescue analgesic that is tramadol 2mg/kg was given according to NRS score above 3 whereas in our study, we gave tramadol 1mg/kg as rescue analgesic on patient's demand. In our study, the mean duration of first rescue analgesic is 279.5±23.5 minutes. Our studies are similar regarding the duration of analgesia because there is no significant difference in the values.

Total number of analgesics in groups G300 and G600 – In our study, the mean of total analgesicconsumption in first 24 hours post-surgery is 2.75±0.64 in number i.e. (137.5±32 mg) and 3.10±0.71in number i.e. (155±35.5 mg) respectively.

PanahKhahi[9] et al compared 2 groups namely treatment group (gabapentin 300mg) and placebo group in lower limb orthopedic surgery under spinal anaesthesia. The treatment group showed Mean±SD as 5.25±2.65 mg whereas in our study, the mean of total analgesic consumption in first 24 hours post-surgery is 2.75±0.64 in number (137.5±32 mg). Utsav Acharya[19] et al demonstrated that the total number of analgesics required in 24 hours post-surgery seen as total analgesic consumption in group A (gabapentin 300mg) is 75±29.96 mgwhereas in our study, the mean of total analgesic consumption in first 24 hours post-surgery is 2.75±0.64 in number (137.5±32 mg).Hansraj[16] et al demonstrated that the total analgesic requirement in 24 hours post-surgery in Group G (gabapentin 300 mg) was 72.5 mg whereas in our study, the mean of total analgesicconsumption in first 24 hours post-surgery is 2.75±0.64 in number (137.5±32 mg).Sudhir Kumar[11] et al compared group A (gabapentin 300mg) and group B (placebo) in orthopedic surgeries under spinal anesthesia. They demonstrated the total number of analgesics required in first 24 hours after surgery as 120±43.43 mg in group A whereas in our study, the mean of total analgesic consumption in first 24 hours post-surgery is 2.75±0.64 in number (137.5±32 mg).Gunavathi[13] et al compared Group G (gabapentin 300mg) and Group P (placebo) in total abdominal hysterectomies under spinal anaesthesia and concluded that Group G showed 232.33±22.54 mg total analgesic consumption in first 24 hours whereas in our study, the mean of total analgesic consumption in first 24 hours post-surgery is 2.75±0.64 in number (137.5±32 mg). We have selected this study in view that this study also used 300mg oral gabapentin for surgery under spinal anaesthesia and used tramadol as rescue analgesic.Robert James[12] et al also compared group gabapentin and group Placebo in total abdominal hysterectomies under spinal anaesthesia and showed the mean of total number of analgesic required as 270±49.3 mg for group Gabapentin whereas in our study, the mean of total analgesic consumption in first 24 hours post-surgery is 2.75±0.64 in number (137.5±32 mg). Our studies were not similar and did not correlate with each other.

Pawan Kumar[11] et al divided 52 patients into 2 equal groups group G (gabapentin 600mg) and group C (control) and compared the total opioid consumption in first 24 hours after surgery. The mean total opioid consumption in group G was 74.13±27.78 mg whereas in our study, the mean total number of analgesics consumed in first 24 hours after surgery is 3.10±0.71in number (155±35.5 mg). Sidharth Sraban[15] et al showed the mean of total number of analgesics consumed in first 24 hours after surgery in group B (gabapentin 600mg) as 4.1±0.66 in elective surgeries under spinal anesthesia whereas in our study, the mean total number of analgesics consumed in first 24 hours after surgery is 3.10±0.71in number (155±35.5 mg). Usha Bafna[10] et al compared group A (placebo) with group B (gabapentin 600mg) in elective gynaecological surgeries under spinal anaesthesia. They demonstrated that the mean of total analgesic requirement in 1st 24 hours post-surgery for group B was 4.1±0.66 whereas in our study, the mean total number of analgesics consumed in first 24 hours after surgery is 3.10±0.71 in number (155±35.5 mg). Upasna Bhatiya[17] et al compared gabapentin group (600mg) and placebo group in total abdominal hysterectomies under spinal block. They concluded that the mean total analgesic requirement in first 24 hours after surgery for gabapentin group was 3.28±0.54 whereas in our study, the mean total number of analgesics consumed in first 24 hours after surgery is 3.10±0.71in number (155±35.5 mg).SmitaMusti[14] et al compared two groups group G (Gabapentin 600mg) and group C (vitamin C) in lower abdominal surgeries under spinal anaesthesia. The mean total analgesic requirement in first 24 hours post-surgery for group G was 1.90±0.76 whereas in our study, the mean total number of analgesics consumed in first 24 hours after surgery is 3.10±0.71 (155±35.5 mg). Roshan Lal Gogna[18] et al demonstrated that the mean total analgesic requirement in first 24 hours post-surgery in group A (gabapentin 600mg) was 123.33±34.07 mg whereas in our study, the mean total number of analgesics consumed in first 24 hours after surgery is 3.10±0.71 (155±35.5 mg). Our studies were not similar and did not correlate with each other. These studies were selected due to similar doses of Gabapentin and route of anaesthesia i.e. spinal anesthesia.

Duration of sensory block as seen by L1 regression of block in groups G300 and G600– We have considered L1 regression of sensory block as the duration of sensory block. In our study, the mean duration of sensory block is 239±22.45 minutes and 233.5±19.80 minutes respectively.We did not come across any study that has demonstrated duration of sensory block after giving oral gabapentin pre-emptively in surgeries under spinal anesthesia.

Ramsay sedation score in groups G300 and G600 – In our study, the intraoperative ramsay sedation score for both groups was 100% for score 2. There are no available studies to compare the intraoperative ramsay sedation score.

Visual analog score in groups G300 and G600 – In our study, we evaluated the VAS score at two time intervals that is before ingestion of single dose of gabapentin and 1 hour after ingestion of gabapentin. The mean VAS score before administration of gabapentin is 6.10±1.33 and 1 hour after administration is 4.80±1.39 for group G300 whereas for group G600 is 6.45±1.39 and 1 hour after administration is 4.60±1.39. There are no available studies to compare the pre-operative VAS score.

Lacunae

Pain assessment in the study cases was subjective and therefore the first rescue analgesic was administered on patient's demand.

Scope For Future Studies:-

We have assessed the Duration of sensory block as we wanted to determine the role of oral gabapentin's pre-emptive dose on the duration of sensory blockade after giving spinal anaesthesia. We did not come across any studies that evaluated duration of sensory blockade and this could be the scope for future studies in order to confirm our findings.

Conclusion:-

We concluded that –

1. There is no statistically significant difference between group G300 (gabapentin 300mg) and group G600 (gabapentin 600mg) regarding duration of analgesia (i.e. demand for first rescue analgesic), total dose of analgesics in first twenty four hours after surgery and duration of sensory block (i.e. L1 regression).
2. No significant difference was seen in case's pre-operative anxiety scores, intraoperative sedation scores and hemodynamic stability and incidence of side effects.

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