



A Study on Different Analgesic Drugs and Techniques Used in Postoperative Pain Management at 250 Bed (Medical College) Hospital, Patuakhali

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Abstract

Background: *The reason of deciding the percentage of analgesics utilized in postoperative period is to decide the genuine usage of opioid saving impact of nonsteroidal anti-inflammatory medications and the idea of multimodal analgesia.*

Objective: *To identify the different analgesic drugs and techniques used in postoperative pain management.*

Method: *This was a cross sectional study. 150 patients were chosen to discover the sorts of analgesics that are being utilized in the postoperative time frame regardless of the kinds of operation and anesthesia, premedication by analgesics and intraoperative analgesics utilized or not. Patients were isolated into a few age groups.*

Results: *In the current imminent cross sectional study it is seen that blend of intramuscular injection of pethidine and nonsteroidal anti-inflammatory medications (either in suppository structure or intravenous or intramuscular route) has the most astounding rate in postoperative help with discomfort.*

Keywords: *Analgesic drugs, Postoperative pain management, Nonsteroidal anti-inflammatory medications.*

Introduction

Satisfactory treatment of postsurgical pain is in excess of a psychological issue of improving patient's solace; it can really diminish perioperative morbidity. Luckily in most recent 20 years the study of pain the board and its clinical practice have developed exponentially. This recently obtained information manages human services experts the chance to treat the patient's postsurgical pain all the more adequately.

Pain all in all is viewed as a protective mechanism. In any case, postoperative pain has no helpful reason and can really meddle with postoperative recovery by enacting a neuroendocrine stress response to surgery. This reaction reduces autonomic, somatic and endocrine reflexes and results in catabolism, arrhythmogenesis, hypercoagulability and immunosuppression^{1,2}. Pain along these lines deplets the body's common hold for healing.³

Nociception and pain include complex neurohumoral flagging pathway. In spite of advances in the comprehension of postoperative pain, including the requirement for a multimodal approach, opioid monotherapy stays regular as starting first line pain the executives, regardless of referred to hazard, for example, over sedation and long term dependence and abuse related with opioid use. Narcotic related unfriendly occasions have been demonstrated to be related with expanded hospitalization, expenses and increment in the general length of medical clinic stay².

Postoperative pain the executives shows a noteworthy test to patients and social insurance suppliers. Insufficient pain the executives can prompt postponement in rehabilitation and emergency clinic release just as brings down patient's satisfaction.⁴

There are such a significant number of approaches to battle postoperative pain. The power of pain relies upon the level of tissue injury. So, various sorts of surgical procedures are evoking pains of various forces. All are being overseen by various estimates like pharmacologically managed opioids, NSAIDS, neighborhood Anesthetics or distinctive different systems.

The utilization of multimodal treatment methodologies in the management of postoperative pain has been investigated in an assortment of careful fields. Treatment with multimodal analgesia has been appeared to lessen opioid use, decrease the rate of opioid related unfriendly occasions and improve pain control when contrasted and utilizing opioid monotherapy^{3,4,5}. Non-opioid analgesic alternatives incorporate non-steroidal anti-inflammatory drugs, gabapentinoids, local anesthetics, ketamine and glucocorticoids.

Another method of postoperative pain management includes the utilization of regional anesthetic techniques including spinal epidural, caudal and perineural blocks and local anesthetic infiltration. Be that as it may, epidural analgesia isn't without dangers, including the improvement of epidural hematoma and abscess.

Methodology

Study Type

This is cross sectional study which was conducted in the field of Anesthesia in 250 Bed (Medical College) Hospital, Patuakhali from February 2017 to February 2019.

Study Population

- Study population consisted of both sex as a Class I, Class II, and of any age and patients undergoing elective surgery and emergency lower uterine Caesarian section.
- The sample size was Of 150
- They were sub grouped according to their age.

Statistical Analysis

Data was processed according age demographics and proportional cases were calculated in different age groups and in total population.

Results

Percentage of different analgesic drugs and analgesic techniques in total selected patients described in the following table below (Table 1).

Table 1: Analgesic drugs and analgesic techniques

Analgesic drugs/Methods	Percentage (%)
Intramuscular pethidine injection.	24.68
Intramuscular pethidine and non-steroidal anti-inflammatory drugs combination	44.74
Intramuscular pethidine and Paracetamol suppository /intravenous combination	3.59
Local anaesthetic infiltration	0.70
Caudal Analgesia	0.59
Non-steroidal anti-inflammatory drugs solely	22.82
Intramuscular pethidine and Tramadolol suppository combination	0.84
Paracetamol suppository	1.88
Others	0.16
Total	100

Table 2 shows 50 patients having age from one day to five years. Amongst them highest percentage of patients 36% are receiving intramuscular pethidine and paracetamol suppository combination for analgesia. Then is used paracetamol suppository in the second

highest percentage of patients 32%. Caudal analgesia has got a significant percentage in this age group at 6%. The use of non-steroidal anti-inflammatory drugs in this group is nil.

Table2: Patients having age from one day to five years

Analgesic drugs/methods	Number of patients	Percentage (%)
Intramuscular pethidine	11	22
Paracetamol suppository	16	32
Intramuscular pethidine and paracetamol suppository combination	18	36
Caudal analgesia	3	6
Local anaesthetic infiltration	2	4
Non-steroidal anti-inflammatory drugs	0	0
Total	50	100

Percentage of different analgesic drugs used and analgesic methods applied in 6 to <18years age group are demonstrated in Table 3. In this group about 40.00% patients are receiving intramuscular pethidine and non-steroidal anti-inflammatory drug combination and it is the highest percentage. Subsequently solely intramuscular pethidine in 28.00% cases and only non-steroidal anti-inflammatory drug in 16.00% cases was used. Caudal analgesia was used in only 4.00% patients.

Table 3: Different analgesic drugs used and analgesic methods applied in 6 to <18years age group

Analgesic drugs/methods	Number of patients	Percentage (%)
• Intramuscular pethidine injection.	7	28.00
• Intramuscular pethidine and non-steroidal anti-inflammatory drugs combination	10	40.00
• Intramuscular pethidine and paracetamol suppository combination	1	4.00
• Local anaesthetic infiltration	0	0
• Caudal analgesia	1	4.00
• Non-steroidal anti-inflammatory drugs solely	4	16.00
• Intramuscular pethidine and tramadolol suppository combination	2	8.00
Total	25	100

Percentage of different analgesic drugs used and analgesic methods applied in 18 to 40 years age group is demonstrated in Table 4. In this group about 16 patients are receiving intramuscular pethidine and non-steroidal anti-inflammatory drug combination and it is the highest percentage at 45.05%. Solely intramuscular pethidine in 17.65% cases and only non-steroidal anti-inflammatory drug in 38.24% cases was used. Caudal analgesia was used in only 2.94% patients.

Table 4: Different analgesic drugs used and analgesic methods applied in 18 to 40 years age group

Analgesic drugs/methods	Number of patients	Percentage (%)
Intramuscular pethidine injection.	6	17.65
Intramuscular pethidine and non-steroidal anti-inflammatory drugs combination	16	45.05
Intramuscular pethidine and paracetamol suppository combination	1	2.94
Local anaesthetic infiltration	1	2.94
Caudal analgesia	0	0
Non-steroidal anti-inflammatory drugs solely	13	38.24
Intramuscular pethidine and tramadolol suppository combination	1	2.94
Others (ketamine, morphine)	1	2.94
Total	34	100

Percentage of different analgesic drugs and analgesic methods in 41-60 years age group is shown in Table 5. In this group about eighty 10 patients are receiving intramuscular pethidine and non-steroidal anti-inflammatory drug combination and it is the highest percentage at 47.62%. Solely intramuscular pethidine injection has been used in 23.81% cases and only 14.29% cases are using non- and non-steroidal anti-inflammatory drug. Caudal analgesia was used in no patients.

Table 5: Different analgesic drugs used and analgesic methods applied in 41-60 years age group

Analgesic drugs/methods	Number of patients	Percentage (%)
Intramuscular pethidine injection.	5	23.81
Intramuscular pethidine and non-steroidal anti-inflammatory drugs combination	10	47.62
Intramuscular pethidine and paracetamol suppository/intravenous combination	1	4.76
Local anaesthetic infiltration	1	4.76
Caudal analgesia	0	0
Non-steroidal anti-inflammatory drugs solely	3	14.29
Intramuscular pethidine and tramadolol suppository combination	1	4.76
Total	21	100

Percentage of different analgesic drugs and analgesic methods in >60years age group is shown in Table 6. In this group about 8 patients are receiving intramuscular pethidine and non-steroidal anti-inflammatory drug combination, it is the highest percentage (40.00%). Solely intramuscular pethidine in 30% cases and only non-steroidal anti-inflammatory drug in 20.00% cases was used. Caudal analgesia was used in only 5% patients. Local anaesthetic infiltration and intramuscular pethidine and tramadolol suppository combination were used in one patients in each aspect.

Table 6: Different analgesic drugs and analgesic methods in >60years age group

Analgesic drugs/methods	Number of patients	Percentage (%)
Intramuscular pethidine injection.	6	30.00
Intramuscular pethidine and non-steroidal anti-inflammatory drugs combination	8	40.00
Intramuscular pethidine and paracetamol suppository /intravenouscombination	0	0
Local anaesthetic infiltration	1	5.00
Caudal analgesia	0	0
Non-steroidal anti-inflammatory drugs solely	4	20.00
Intramuscular pethidine and tramadolol suppository combination	1	5.00
Total	20	100

Discussion

Intense pain is characterized as pain present in surgical patient after a procedure.⁷ Poorly overseen postoperative can prompt entanglements and prolonged rehabilitation.⁸ Uncontrolled acute pain is related with the improvement of chronic pain with decrease in nature of life⁹. Fitting help with discomfort prompts abbreviated emergency clinic remain, diminished medical clinic costs and expanded patients' fulfillment. Higher postoperative pain can be related with lower nature of consideration. Subsequently, the management of postoperative pain is an expanding monitored quality measures. The hospital consumers assessment of health providers and system scores estimates patients' satisfaction with in patient administration and may have suggestions concerning repayment.

Postoperative pain varies from different sorts of pain in that it is normally ,however in no way, shape or form dependably ,fleeting with dynamic improvement over a moderately brief time course.¹⁰ Acute pain is more managable to treatment than chronic pain. There is gigantic variety in the degree of analgesic necessities relying on the kind of medical procedure, pharmacokinetics and pharmacodynamic inconstancy and so on.

Our outcome featured new parts of postoperative pain control, for example, most astounding level of specific analgesics utilized in early age group isn't like those of adult age groups.

In age group- 1 day to five years, paracetamol suppository use was in 32% cases which demonstrate the rate of negligible invasive surgery is most noteworthy in number. Utilization of nonsteroidal anti-inflammatory drug is a very debilitated in this group because of liver and kidney immaturity. The next is the multimodal type of analgesia in which mix of intramuscular injection of pethidine and paracetamol suppository was utilized on a large portion of the patients. Caudal analgesia was given in 6% cases.

In age group- less than 5 years to under 18 years, blend of intramuscular injection of pethidine and

nonsteroidal anti-inflammatory drugs (either in suppository structure or intravenous or intramuscular route) has the most elevated rate being used. Next was the main intramuscular pethidine injection. Intramuscular injection of pethidine and paracetamol suppository or intravenously in mix was utilized in just 4% of patients. Nonsteroidal anti-inflammatory drugs solely (either in suppository structure or in intravenous or intramuscular route) use was in around 15 to 20% cases.

In age bunch 18 to 40 years, almost comparable picture to the previous group in the utilization of analgesic was found. Among them, about 40% was given blend of intramuscular injection of pethidine and nonsteroidal anti-inflammatory drugs (either in suppository form or in intravenous or intramuscular route) was given. Just intramuscular pethidine was given to 20% (approx) of patients. no patient was given caudal analgesia. if there should be an occurrence of bronchial asthma patients nonsteroidal anti-inflammatory drugs were not given, just intramuscular pethidine or combination of intramuscular pethidine and tramadolol suppository were utilized as an option. Nonsteroidal anti-inflammatory drug has opioid saving impacts around 25 to 30%. So it is utilized in blend with opioid to utilize less measure of it than when it is utilized alone. By this there is likewise a joined and less possibility of symptom of opioid is gotten.

Conclusion

In conclusion to the existing prospective cross sectional study, it shows that a amalgamation of intramuscular injection of pethidine and nonsteroidal anti-inflammatory drugs (both in suppository form or intravenous or intramuscular route) has the highest chance in postoperative pain relief.

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