

PRESCRIBING TRENDS OF ANALGESICS USED IN POSTOPERATIVE PATIENTS IN A SURGICAL UNIT OF ENAM MEDICAL COLLEGE HOSPITAL

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ABSTRACT

The present study was conducted to evaluate the prescribing trends of analgesics used in the postoperative patients in a surgical unit of Enam Medical College Hospital. Treatment records of 180 patients, who underwent surgery in Enam Medical College Hospital, were randomly selected. Data pertaining to pain medications prescribed from the day of operation to sixth postoperative day were recorded. 180 prescriptions containing analgesics were collected randomly from the period of July 2007 to June 2008. In the operation day 65.6% patients received Nalbuphine and 33.3% patients received Pethidine. Along with Nalbuphine and Pethidine 86.7% patients received Tramadol and 13.3% patients received Ketorolac. 0.6% patients did not receive any analgesic in the day of operation. In 1st postoperative day, 84.4% patients received Ketorolac and 15.6% patients received Tramadol. In 2nd, 3rd, 4th and 5th postoperative day patients received Ketorolac 86.1%, 85.6%, 83.9% and 62.2% respectively. In 6th postoperative day, 92.8% patients did not receive any analgesics.

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INTRODUCTION

Surgical operations are associated with pain, which amplify endocrine and metabolic responses, autonomic reflexes, nausea, ileus and muscle spasm and thereby may increase post operative morbidity and mortality¹. Optimal post operative pain management is therefore mandatory to enable early mobilization and rehabilitation, to enhance recovery and to reduce morbidity.

Analgesic used preoperatively reduces the dose of general anaesthetics thereby producing balanced anaesthesia and makes better adherence to the treatment with minimal postoperative complications. Postoperative pain management is an important but seemingly undervalued component of perioperative care. Over the past decade, medical societies, governmental agencies, and accrediting bodies such as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) have paid increasing attention to the management of all types of pain, including postoperative pain².

Despite this increased focus, the literature suggests that many patients continue to experience significant postoperative pain. Inadequately controlled pain can cause postoperative morbidity, prolong recovery time, delay return to normal living, and decrease satisfaction

with care. Inadequate pain management increases the use of health care resources, thereby increasing total health care costs³.

Opioid analgesics have long been shown to produce a dose-dependent reduction in the minimum alveolar anesthetic concentration (MAC) of volatile anesthetics⁴. However, in animal studies designed to assess the effect of Ketorolac on the volatile anesthetic requirement, no reduction in MAC could be demonstrated⁵. Thus, it is not surprising to find that intraoperative anesthetic conditions are generally less satisfactory when Ketorolac is used as an alternative to a potent opioid analgesic⁶.

Despite the failure of NSAIDs to replace opioid analgesics in the management of acute intra- and postoperative pain, these drugs may play a useful role as adjuvant for improving postoperative analgesia. In a placebo-controlled study involving ambulatory surgery patients, Ketorolac 30-60 mg IV given intraoperatively, produced a dose-dependent decrease in postoperative pain scores and opioid analgesic requirements⁷. Post operative pain is one of the most prevalent types of acute pain and is an expected result of surgical procedures experienced by thousands of patients all over the world⁸.

In view of the above considerations and of a scenario in which the practice and the technical decisions of health professionals are increasingly tied to economic restrictions, the present study was designed to evaluate the prescribing pattern of analgesic in a private medical college hospital.

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MATERIALS AND METHODS

This prospective observational study was carried on 180 patients in a surgical unit of Enam Medical Collage Hospital from July, 2007 to June, 2008.

Selection of Sample

The prescriptions generated by the graduate and postgraduate doctors to the patients undergoing surgery were included in the study.

The prescriptions which did not contain analgesics were excluded and the prescriptions of the patients suffering from diabetes mellitus, hypertension and any cardiac diseases were also excluded.

Statistical analysis

Analysis of data was done with the help computer by SPSS program version of 12.0 Software facilities.

RESULTS

Total number of 180 prescriptions containing analgesics was collected randomly. The distribution of the patients admitted in Enam Medical college hospital according to analgesics used in the operation day were as follows – 65.6% patients in the hospital received Nalbuphine & 33.3% patients received Pethidine in the operation day. Associated analgesics used with Nalbuphine and Pethidine in the operation day were either Ketorolac (13.3%) or Tramadol (86.7%). In first post operative day 84.4% patients received Ketorolac .In 2nd, 3rd, 4th and 5th post operative days patients received Ketorolac 86.1%, 85.6%, 83.9% and 62.2% respectively .In sixth post operative day 92.8% patients did not receive any analgesics.

Table-I

Distribution of the patients admitted in the Enam Medical College and Hospital according to analgesics used from operation day to sixth post operative day.

Day of operation	Pethidine (N=180) N (%)	Nalbuphine (N=180) N (%)	Tramadol (N=180) N (%)	Ketorolac (N=180) N (%)	Others (N=180) N (%)	Not Used (N=180) N (%)
Operation Day	61 (33.9)	118 (65.6)	156 (86.7)	24 (13.3)	-	1 (0.6)
1 st POD	-	-	28 (15.6)	152 (84.4)	-	-
2 nd POD	-	-	25 (13.9)	155 (86.1)	-	-
3 rd POD	-	-	26 (14.4)	154 (85.6)	-	-
4 th POD	-	-	29 (16.1)	151 (83.9)	-	-
5 th POD	-	-	23 (12.8)	112 (62.2)	-	45 (25)
6 th POD	-	-	3 (1.7)	10 (5.6)	-	167 (92.8)

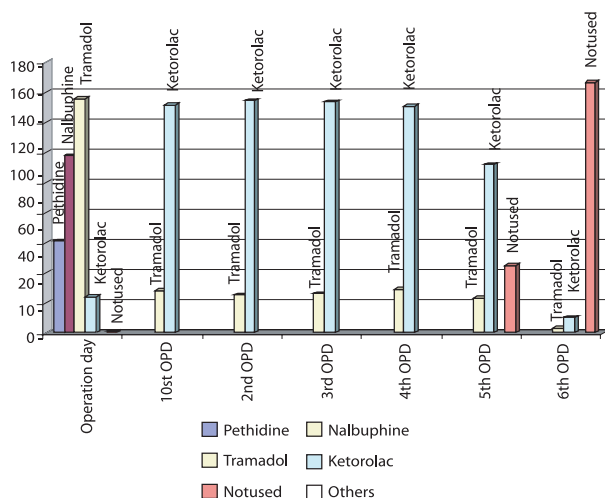


Fig.-I: *Distribution of patients admitted in Enam Medical college & Hospital according to analgesics used from the day of operation to 6th POD (N=180)*

DISCUSSION

The present study reveals that Nalbuphine was mostly used in the day of operation. Possibly Nalbuphine was used in this private hospital because patient has to purchase Pethidine from outside, which is expensive than Nalbuphine and difficult to obtain because Pethidine is a regulated product. One previous study found that the Nalbuphine has a longer duration of action than Pethidine while pain intensity and visual analogue scales were considered. They also found that the respiration rates in the Pethidine group were significantly more depressed after the injection than in the Nalbuphine group. Nalbuphine caused less depression of both systolic and diastolic blood pressure at both 30 and 60 minutes⁹.

Another study proposed that Nalbuphine is a suitable alternative to Pethidine, producing beneficial sedation which is maximum at 60 min after injection. However,

they also reported nausea and vomiting of delayed onset as a disadvantage of Nalbuphine¹⁰.

Although NSAIDs are unable to replace opioid analgesics in the management of acute intra- and postoperative pain, these drugs may play a useful role as adjuvant for a dose-dependent decrease in postoperative pain scores and opioid analgesic requirements⁷.

Nalbuphine was used mostly on the operation day and Ketorolac was used on later post operative days. This is due to the better adherence to Ketorolac by the patients due to its no severe side effects such as no cardio respiratory depression with no addiction liability as compared to Pethidine or Nalbuphine. Moreover Ketorolac is widely available and cheaper than Pethidine or Nalbuphine and Ketorolac is also available in oral form.

Standard Treatment Guideline should be introduced to avoid individual's empirical selection of analgesic so that working doctors adhere to it and prescribe rationally thereby improving the health care delivery system with minimal cost and adverse effects.

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