

LETTERS TO THE EDITOR

Post-operative analgesic in children

Current practice of post-operative pain control requires close reexamination, because of recent developments in conceptual organization, institutional plan and proper management of different aspects of analgesic administration. With the recent conceptual, scientific and technological development, traditional method of pain control has been further strengthened by more innovative methods of pain control and a wide range of pharmacological, physical and psychological treatments for acute pain is also available now. In addition, multidisciplinary approaches to pain management have raised expectations of better outcomes for people with pain¹.

Most importantly, there is no system of management of different aspects of analgesic administration for post-operative pain control. Therefore it is very much relevant to analyze the current practice of post-operative analgesic in our setting.

This cross-sectional study was conducted from July 2003 to June 2005. Ninety admitted patients (30 from each hospital) were included in this study with the mean (\pm S.D) age of 8.70 ± 2.09 years from the Department of Pediatric Surgery of Bangabandhu Sheikh Mujib Medical University,

Dhaka, Bangladesh Institute of Child Health and Dhaka Shishu Hospital, Dhaka and Dhaka Medical College Hospital, Dhaka.

Observations were made on analgesic practice regarding the agents used for analgesia, their dose, route of administration, pattern of analgesic changes and non-compliance of prescription from the first to the seventh post-operative days.

As shown in Figure 1, among the post-operative analgesics, diclofen was the most frequently used agent in the first three post-operative days. Pethidine and combination of other drugs (diclofen + tramadol, diclofen + ibuprofen, pethidine + tramadol) were the second most frequently used agents over the same post-operative period. Paracetamol was used after the third post-operative day.

Diclofen was mostly used at 12 hourly (46.77%) and at 8 hourly (34.06%) intervals. Pethidine was frequently used on demand (41.52%) and at 8 hourly (29.90%) intervals. Paracetamol was mostly used at 8 hourly (72.78%) interval.

Pethidine was exclusively (100%) used by intramuscular route. Most of the diclofen (94.9%) was administered by perrectal route and paracetamol (77.71%) was given orally.

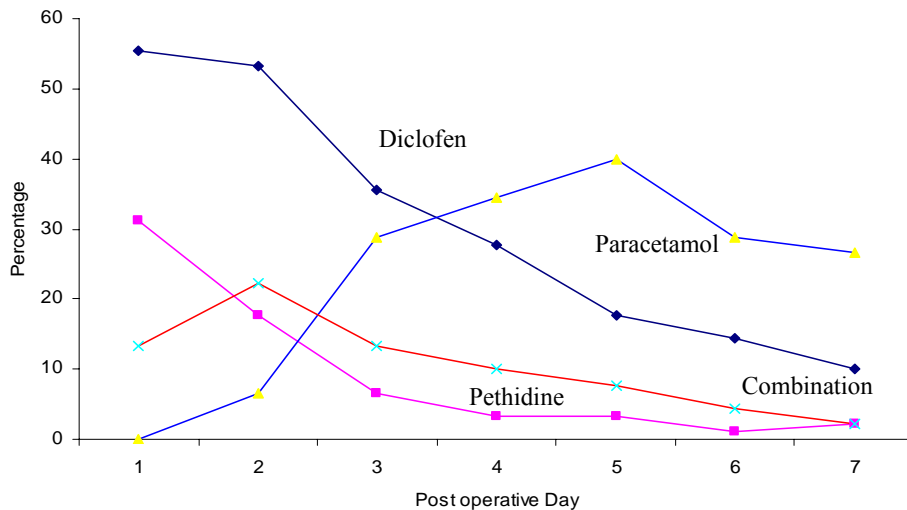


Figure 1: Pattern of use of different postoperative analgesic both as single agent and in combination in different post-operative days (n=90)

Table I: Dosage of drugs (mg/kg/dose)

| Analgesic | Appropriate dose | | Less than appropriate dose | | More than appropriate dose | |
|-----------------------------------|------------------|-------|----------------------------|-------|----------------------------|-------|
| | No. of dose | % | No. of dose | % | No. of dose | % |
| Diclofen (No. of dose =590) | 312 | 52.88 | 227 | 38.47 | 51 | 8.65 |
| Pethidine (No. of dose =301) | 160 | 53.16 | 123 | 40.86 | 18 | 5.98 |
| Paracetamol (No. of dose =507) | 270 | 53.25 | 150 | 29.59 | 87 | 17.16 |

Table I shows that in 52.88% cases diclofen was used in appropriate dose, 53.16% cases pethidine was used in appropriate dose and in 53.25% cases paracetamol was used in appropriate dose.

97% of the agent switching and 38% of agent fortification was done with paracetamol. Neither switching nor fortification was done with diclofen.

Non-compliance of prescribed dose interval was found in 59% cases, on the other hand agent non-compliance was observed in 16% cases. Inconvenient route of administration was responsible for analgesic non-compliance in 24% of the patients.

In our study it was found that no sound policy of patient counseling was given to any patients regarding the analgesic type, the route of administration, the dose-interval and the duration of administration of analgesics before the operation. Though, by using the concept of explaining the analgesic administration to the operative patients by using the concept of explaining the analgesic administration to the operative patients alleviated the fear and anxiety and decreased the intensity of pain².

It was observed that narcotic and non-narcotic analgesics were prescribed singly or in combination without proper planning. Among the agents, non-narcotic analgesics were used preferably. Diclofen was used in more than one third of the patients and only few received narcotic analgesic (pethidine). The infrequent use of pethidine, in our study, is in contrast to the observation made by Mather and Mackie³ where two third of their patients received pethidine.

It was found that in 45.5% of the patients, the primary agents were substituted by or fortified with another less potent³ drug - commonly paracetamol. Similarly Mather and Mackie³ observed that primary agents were switched over to paracetamol in 29% of patients. It was also observed that switching or fortification of analgesic agents were done randomly in our study without mentioning specific indication.

In all cases pethidine was found to be administered intramuscularly. Pethidine in intravenous route was not used. Though its use in intravenous route has

no additional disadvantage, whereas intramuscular injections induce additional pain during prick and is therefore unpleasant and undesirable for children⁵. Such a painful intervention also causes of fear and anxiety in already frightened children resulting in under reporting of pain and noncompliance by children when analgesics are given on demand⁶.

It was found that most of the diclofen was administered per rectally, and the rest by continuous intravenous route. But Maunuksela⁷ found that adequate pain control was achieved only by regular or continuous intravenous administration.

In this study the intervals of the analgesic administration were found to be longer than their recommended dose interval. Most of the dose intervals of pethidine administration were more than 6 hours, that of diclofen was more than 12 hours and that of paracetamol was more than 8 hours. All dose intervals mentioned were longer than standard recommendation (3 to 4 hours for pethidine, 6 to 8 hours for diclofen and 4 to 6 hours for paracetamol)⁸.

About half of the dosage of analgesic was found to be inappropriate in relation to the body weight of the patient. This finding is similar to the observation of Mather and Mackie³, where half of the dosage of pethidine was found to be inappropriate in relation to the body weight of the children.

Agent noncompliance was found in less than one sixth, route non-compliance was found in one fifth and dose interval non-compliance was found in about half of the patients.

This noncompliance was due to administrative failure from inadequate communication, inefficient nursing practice and lack of supervision by the doctors.

From this study it is revealed that current analgesics practice in our country is erratic, inconsistent and is deviated from the standard recommendation based on modern concepts, institutional planning and system of post-operative analgesic management.

So further study is required to make the analgesic practice consistent and logical.

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Glyceryl trinitrate: The management of chronic anal fissure in patients who are unfit for surgery

We read with great interest the article by Siddique et al.¹ whose work shows that lateral internal sphincterotomy is the treatment of choice in chronic anal fissure when compared with 0.2 percent glyceryl trinitrate. We would like to further discuss this article by introducing a major route through which 0.2 percent glyceryl trinitrate could use in patients who are unfit for surgery.

Chronic anal fissure is most commonly seen in young adults who usually present with severe, sharp anal pain during, and persisting for as long as several hours after, defecation. Patients with chronic anal fissures generally have raised resting anal pressures and excessive resting pressures may reduce anodermal blood flow by compressing blood vessels as they pass through the hypertonic sphincter². Until approximately 10 years ago the majority of the patients were treated by some form of surgical procedure aimed at reducing anal

hypertonia. In the view of the complications associated with surgery, much work has gone into the development of new pharmacological agents that can relax smooth muscle, lower resting anal pressure and promote healing of chronic anal fissures^{2,3}. Despite vast improvements in surgical techniques and pharmacological agents, management of chronic anal fissure continues to be a clinical problem in patients who are unfit for surgery such as in patients with severe neutropenia, hematological disorders, hepatitis, HIV, and some malignancies⁴. The present study performed by Siddique et al.¹ and nearly all of the studies in the literature designed for the management of chronic anal fissure exclude these patients. Additionally, to the best of our knowledge, there is no study about the safety and efficacy of 0.2 percent glyceryl trinitrate in this population. As a personal experience, we successfully treated three patients with severe neutropenia, one patient with leukemia, one patient with bleeding disorder and one patient with combined hepatitis B, C, and E by topical 0.2 percent glyceryl trinitrate. On the other hand, any treatment procedure has both limitations and potential complications, and topical 0.2 percent glyceryl trinitrate is no exception. Before prescription 0.2 percent glyceryl trinitrate in this population, the patients should be made fully aware of the potential side effects and under close follow up. This treatment option should be born in mind for above mentioned patients, as it may be of interest in examining the potential beneficial effects of this drug in patients who are unfit for surgery.

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