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Correspondence

Analgesic efficacy of single-dose parecoxib for corneal suturing in children

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EDITOR:

Corneal injuries in children are still common in developing countries. Suturing of corneal perforations is undertaken under general anaesthesia utilizing opioids. The efficacy of non-steroidal anti-inflammatory drugs (NSAIDs) has not been evaluated for this procedure. We conducted this randomized, double-blind study to assess whether a single dose of parecoxib could be a satisfactory alternative to fentanyl, and whether topical proparacaine, a local anaesthetic, would enhance the quality of perioperative analgesia in children receiving parecoxib.

Following departmental approval and informed, written parental consent, 110 (American Society of Anesthesiologists Grade I/II) children aged 7–14 yr, scheduled for repair of corneal perforation were enrolled in the study. Intravenous (i.v.) access was obtained after topical eutectic mixture of anaesthetics cream application. All children were taught to express postoperative pain in terms of a verbal response score (VRS) ranging from 0 denoting no pain to 3 denoting unbearable pain. Children were randomly allocated to one of three groups: Group F (i.v. fentanyl $2\,\mu g\,kg^{-1}$), Group P (i.v. parecoxib 20 mg up to 35 kg weight and 40 mg if weight >35 kg) and Group PL (parecoxib as in Group P and five drops of 0.25% proparacaine topically). After applying routine monitoring, fentanyl or parecoxib was injected over 2 min. Anaesthesia was induced with propofol and a laryngeal mask (LM) was inserted. Anaesthesia was maintained with rocuronium and isoflurane in 40% oxygen–nitrous oxide with mechanical ventilation.

Intraoperative monitoring included heart rate, mean arterial pressure, need for rescue analgesic ($0.5\,\mu g\,kg^{-1}$ fentanyl) and number of episodes of oculocardiac reflex. Neuromuscular block was reversed and the LM removed at the end of surgery after a dressing had been applied.

In the postanaesthesia care unit (PACU), a nurse assessed the pain status on a 3-point scale ranging from 0 (quiet/sleeping) to 2 (crying/obvious pain/distress). The VRS was used on awakening. For a nurse-assessed score of 2 or VRS ≥ 2, fentanyl $1\,\mu g\,kg^{-1}$ was administered. All children were sent to their ward after 1 h in the PACU. Pain was re-assessed at 2, 6 and 12 h. When a child complained of pain in the ward, oral ibuprofen syrup $10\,mg\,kg^{-1}$ was administered by the ward nurse and one of the investigators was notified. The final pain score and parental satisfaction of the child's comfort was evaluated at 24 h.

A total of 90 children were finally analysed (30 in each group). The patient characteristics data were comparable. Intraoperative rescue was required by four children in Group F and seven children in Group P compared with one child in Group PL ($P < 0.001$). Children in Group F had more episodes of the oculocardiac reflex (17) than in the P (1) and PL (3) groups ($P < 0.001$). On awakening 12 children in Group F required analgesia compared to one in Group P and none in Group PL ($P < 0.001$ for both). Twelve children in Group F required at least two doses of ibuprofen (up to 24 h) compared with four (single dose) in Group PL ($P < 0.05$) and six (single dose) in Group P ($P < 0.05$). Antiemetic treatment was required by 18 patients in Group F compared with three in Group PL and four in Group P ($P < 0.001$). At 24 h, eight children in Group F had a VRS score of 1; it was 0 in both P and PL groups. Parents of children in Groups P and PL were satisfied with their child's comfort, whereas 14 parents in Group F were upset about postoperative nausea and vomiting.

Although the role of cyclooxygenase-2 inhibitors in children is poorly defined, their use is common [1], primarily for arthritis [2]. Rofecoxib in adenotonsillectomy has been found to be superior to

Correspondence to: Rajeshwari Subramaniam, Department of Anaesthesiology and Critical Care, All India Institute of Medical Sciences, New Delhi, India. E-mail: rajeshwarisubramaniam@hotmail.com; Tel: +91 11 26193120, +91 9810079229; Fax: +91 11 26588500

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placebo with no difference in blood loss [3]; it is morphine-sparing with earlier return to activity [4]. We could not locate any published studies on parecoxib in children. Parecoxib has been found to be as effective as 12 mg morphine, and possibly superior to 6 mg morphine for laparotomy in adults [5]. Gastric and haematological side-effects are less common with parecoxib for many types of postoperative pain [6]. The Australian Adverse Drug Reactions Bulletin [7] has recommended approval for a single dose of parecoxib. Our study shows that single-dose parecoxib is a suitable and superior alternative to fentanyl for corneal suturing with longer postoperative comfort, less postoperative nausea and vomiting and no observed adverse effects. However, efficacy of i.v. vs. rectal NSAIDs and safety need to be evaluated in larger paediatric groups before parecoxib can be proclaimed to have any real benefit.

R. Subramaniam, C. Joshi, A. Sharma, C. N. Prasad
Department of Anaesthesiology and Critical Care
All India Institute of Medical Sciences
New Delhi, India

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Anaesthesia and surgery in patients with abnormal preoperative liver enzymes

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EDITOR:
There is little information about how anaesthesia and surgery affect individuals who have mild liver pathology but exhibit abnormal liver enzymes. Some authors have suggested that additional laboratory studies in such cases may increase perioperative costs unnecessarily and cause cancellations or delays in busy operating rooms [1].

The aim of this retrospective study was to evaluate how liver enzymes are affected by anaesthesia and surgery in patients who have elevated liver enzymes preoperatively but show no signs of advanced liver disease or cirrhotic changes. We also studied a subgroup of these patients who underwent a hepatology consultation to see whether this influenced patient management.

After receiving approval from the Institutional Research Committee on Clinical Studies, we reviewed the charts of all patients who underwent surgery at Baskent University, Ankara Hospital between January 2000 and December 2004. All cases that featured abnormal preoperative liver enzymes were selected.

A patient was considered to have abnormal preoperative liver enzyme results if the serum level of aspartate aminotransferase (AST) or serum alanine aminotransferase (ALT) was more than 1.5 times higher than the upper limit of normal in the week prior to surgery. Cases with advanced liver disease and signs and symptoms of cirrhosis were not included. For each case, we recorded baseline (preoperative), early postoperative (within the first 48 h) and late postoperative (20–40 days after surgery) AST and ALT levels. We also recorded patient

Correspondence to: Arash Pirat, Department of Anaesthesiology, Başkent Üniversitesi Hastanesi, Anesteziyoloji Anabilim Dalı, 10. Sok. No. 45 Bahçelievler, 06490 Ankara, Turkey. E-mail: arashp@baskent-ank.edu.tr; Tel: +90 312 212 68 68/1069; Fax: +90 312 223 73 33

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