

## Post-Caesarean analgesia in Timor-Leste, a low-middle-income country

Dear Editor,

Timor-Leste is a small, low-middle-income country in Southeast Asia. It is reported to spend less on healthcare than any other country.<sup>1</sup> Hospital Nacional Guido Valadares performs 6 000 deliveries a year. Epidural analgesia, intrathecal opiates, transversus abdominis plane blocks, oral and intravenous opiates, and non-steroidal anti-inflammatory agents have all been mooted as techniques useful in improving post-caesarean analgesia.<sup>2,3</sup> Most of these options are unavailable in Timor-Leste. Opiate use in theatre is minimal and opiates are unavailable on the ward. Epidural anaesthesia and patient controlled analgesia are unavailable. A locally formulated post-caesarean pain management protocol, taking into account available agents and expertise, encourages spinal anaesthesia with hyperbaric bupivacaine followed by 100 mg intramuscular tramadol in the recovery area, followed by oral paracetamol 1 gm qid., tramadol 50 mg qid. and ibuprofen 400 mg tds. in the wards. This study sought to determine the efficacy of this protocol in a low resource environment.

Seventy women were assessed, undergoing either elective or emergency caesarean section. Choice of anaesthesia was at the discretion of the anaesthetist. A verbally reported pain score (0–10) was recorded on arrival in the recovery area and on the first postoperative morning. As per local practice the obstetrics team prescribed and administered analgesics in the ward. The patient chart was reviewed to determine which analgesics had been prescribed and which had been administered. Patients were asked if they were satisfied with their analgesia. Results are reported as mean (standard deviation).

The mean age of the participants was 28.4 (5.1) years. Sixty-six underwent spinal anaesthesia, of whom 4 received 25 µg of intrathecal fentanyl. Nine (14%) of the spinal anaesthetics required supplementation with ketamine to prolong anaesthesia. Eighteen women received intraoperative tramadol. Four women underwent general anaesthesia, and received 100 µg of intravenous fentanyl. Two received a further 5 mg of intravenous morphine. Mean surgical time was 66.7 (17.0) minutes. Mean pain score on arrival in the recovery area was 1.5 (2.0). Pain scores post-spinal anaesthesia were 1.4 (2.0), and post general anaesthesia 2.5 (1.9). Forty-eight women (68.6%) were given analgesia in recovery – 33 intramuscular tramadol as per protocol, 2 intramuscular morphine, 2 oral paracetamol and 1 intravenous fentanyl.

On the first morning after caesarean section, overall verbally reported pain scores were 3.2 (1.7). Nineteen women had been prescribed and had received protocol analgesics, namely oral paracetamol, ibuprofen and tramadol. These women had pain scores of 2.4 (1.4). Thirty women had been prescribed and had

received oral paracetamol and tramadol. Their pain scores were 3.2 (1.5), which were not significantly different from the scores in those receiving the full analgesia protocol ( $P = 0.07$ ). Seventeen women received only some of their regular charted analgesics. This group had a pain score of 3.7 (1.8). Four women received no analgesia at all. Their mean pain score was 6.0 (1.7). No patient received 'prn' analgesia. 74% of women reported being satisfied with their analgesia. Anecdotal observation suggested that as the study progressed, adherence to protocol and the administration of analgesics improved.

The challenges of improving perioperative care for women undergoing caesarean section in low-middle-income countries have been highlighted previously.<sup>4,5,6</sup> Adequate analgesia is important in enabling mothers to care for their babies and promptly return to full function. Cultural expectations are known to shape responses to pain management and the perception of whether or not pain is seen as a clinical problem.<sup>7</sup> Despite the above, it was anecdotally observed that the obstetrics team and nursing staff became more aware of pain management and appeared more likely to prescribe and administer appropriate analgesics as the study progressed. This suggests that the performance of such investigations may make an important contribution to improvements in patient care. If anaesthetists are able to extend their clinical reach to the review of patients on the ward postoperatively, there will likely be improvements in care. High levels of maternal and perinatal morbidity and mortality are reported to occur on the wards postoperatively, especially in the developing world.<sup>8</sup> In this regard, follow-up by the anaesthetist is likely to have benefits extending beyond pain management.

The United States Joint Commission on Accreditation of Healthcare organizations suggests a goal of uniformly low pain scores of no more than 3 out of 10.<sup>9</sup> The only subgroup to achieve this was the group that was prescribed and received protocol analgesics, namely paracetamol, tramadol and ibuprofen. Patients who received only some of their prescribed analgesics had progressively worse pain scores. Predictably, the 4 women who received no postoperative pain relief had the worst pain scores. While this latter circumstance would not be tolerated in high-income countries, it is not uncommon in low-and middle-income countries. The causes of failure to administer pain relief are varied. They include staff education and attitude, high case load, and inadequate supplies of medication.

Despite the lack of opiates and frequent incomplete administration of prescribed analgesics, 74% of women reported satisfaction with their analgesia. The expression of satisfaction or otherwise with pain relief has a complex cultural overlay. Previous patient experience and expectations significantly influence the

response to pain.<sup>7</sup> To complicate matters, interpreters provided further insight into the cultural complexities, commenting that some women were afraid of being compelled to stay in hospital, expressing their dissatisfaction, or appearing weak in front of family members. These issues raise the spectre of under-reporting of pain. In addition, cultural complexities extend to the attending staff. Despite several patients having an obvious requirement for analgesia, no patient received 'prn' analgesia. Some of the related issues involved nursing training and attitudes. Nurses frequently felt that "the patient has already had analgesia", and therefore the assumption was that they did not require further medication. The local custom of fasting patients for 6 hours postoperatively, also often prevented women from receiving timely oral analgesics.

This study suggests that provision of acceptable and adequate post-caesarean analgesia without intravenous or intramuscular opiates is possible in low resource environments. Adherence to simple locally formulated oral analgesia protocols improves post-caesarean section pain relief. In low- and middle-income countries, active involvement by anaesthesia staff in the ward may improve compliance with protocols, and raises staff awareness of the treatment of pain as an important therapeutic goal in the treatment of women post-caesarean section.

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