QUALITY OF LABOR ANALGESIA AND MATERNAL SATISFACTION: A PROSPECTIVE OBSERVATIONAL STUDY

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Introduction: The current practice of neuraxial labor analgesia in most centers in North America is thought to be evidence based. This evidence comes from studies conducted in very controlled settings and do not account for the variability of the daily practice. Prospective observational studies assessing quality and safety of analgesia during the entire labor and delivery process, including a focus on maternal satisfaction, are not common in the medical literature (1). The purpose of this study is to prospectively evaluate the effectiveness and safety of labor analgesia provided at a tertiary teaching center, as well as maternal satisfaction.

Methods: This was a prospective observational study approved by the REB. All patients requesting neuraxial analgesia for labor in November 2011 were approached to participate, and after signing informed consent, were included in the study. Patients were managed as per routine with a test dose and a loading dose, followed by a PCEA with bupivacaine 0.0625% + fentanyl 2mcg/ml, and PRN top-ups given by nursing and/or physicians. According to physician judgment, the PCEA solution could be changed to bupivacaine 0.125% with fentanyl 2 mcg/ml. After delivery, the patients were given a satisfaction questionnaire comprising 10 sentences to be classified according to a Likert scale ranging from strongly agree to strongly disagree. Furthermore, physicians’ and nurses’ notes were reviewed to ensure that all data pertaining to the quality of analgesia and complications in all stages of labor and delivery had been captured.

Results: There were 508 deliveries in the study period, 332 patients were eligible, 10 (3%) refused to participate, 28 (8.4%) were lost follow-up, and 294 were analyzed. Most patients (274) received epidural analgesia and the remainders received CSE. The mean dilatation and pain score (verbal rating scale 0-10) at the time of request of analgesia was 4.8±2.0 cm and 7.6±2.2, respectively. There was no intravascular catheter placement, there were 3 (1.03%) unintentional dural punctures and 13 (4.4%) catheters had to be replaced. The incidence of spontaneous vaginal delivery was 71% and cesarean sections were 15.9%. About 40% of the patients reported to have had a pain score greater than 3 at least once after the activation of the epidural. The number of patients who received top-ups from nurses and from MD was 106 (36%) and 72 (24%) respectively, and 23 (7.8%) had the maintenance solution switched to higher concentration. The incidence of hypotension was 9.1%, pruritus 7.1%, fetal bradycardia 7.1% and nausea or vomiting 7.1%.

Discussion: Overall, the incidence of complications was small and similar to previous reports. The placement of epidural was comfortable for most patients but a large number of them reported to have had moderate to severe pain at least once during the maintenance period of the epidural. This motivated a high incidence of top-ups by nurses and physicians. Interestingly, very few women had the maintenance concentration increased. Despite this, more than 80% considered that their epidural worked well. The data is currently under evaluation to identify predictors of breakthrough pain and maternal satisfaction.