PREDICTORS FOR POST-CAESAREAN SECTION PAIN AND ANALGESIC REQUIREMENT

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Introduction

Figures suggest that, locally, the percentage of planned caesarean sections is rising. Malta has one of the highest planned caesarean section rates in Europe - 28.3% in 2004. (EURO-PERISTAT project, 2008) Post-caesarean section, pain is a complicating factor for all women. However, finding the best way to treat this pain may be problematical. Accurate prediction of post-operative pain and/or analgesic requirement in an individual patient could lead to personalized methods to reduce severe post-caesarean section pain and improve acute and chronic outcomes. (Pan et al, 2006)

Aims

- To assess whether pre-operative perception of experimental pain in pregnant women can predict the level of post-caesarean section pain and/or analgesic consumption.
- To compare puerperal pain scores in women having in-situ repair of the uterus at caesarean section versus repair after exteriorizing the uterus.
- To determine other factors that could have an effect on post-operative pain, particularly age, breastfeeding, parity, and anaesthesia.

Method

- Twenty women, scheduled for elective caesarean section, were enrolled in the study.
- On the eve of the caesarean, three devices were used to assess the patient’s pain threshold and tolerance. These included Pain Matcher® (Cefar Medical AB, Lund, Sweden) for electrical pain assessment, and two algometers (Wagner Instruments, Greenwich), one of which was digital, for pressure pain assessment.
- The instruments were applied to the patient’s right-hand, and the patient was asked to notify the investigator when she started to feel pain (pain threshold) and when she could no longer stand the pain (pain tolerance).
- Following surgery, the women reported the level of pain on a numerical rating scale (NRS), at regular time intervals, for the first forty-eight hours.
- The type of anaesthesia, site of uterine repair, haemoglobin levels, incidence of ileus, problems with breastfeeding, and analgesic consumption, focusing primarily on pethidine, diclofenac and paracetamol, were recorded.
- The pre-operative pain threshold and tolerance were compared with the post-operative NRS pain scores and analgesic consumption.
- The data was analysed parametrically using SPSS software (version 17.0; SPSS Inc., Chicago, IL).

Results

The mean pain scores at 6, 12, 24, and 48 hours post-operatively were 5.7, 5.9, 4.85, and 3.65 respectively. The Pearson correlation test revealed no significant relation between pre-operative pain threshold and tolerance and the post-operative NRS pain scores. A significant relation, represented in the graph, was found between pre-operative pain tolerance given by Pain Matcher® and post-operative paracetamol consumption (P=0.003). Multiple regression analysis showed that the site of uterine repair and the type of anesthesia were the most valid predictors of post-operative pain.

Conclusion

Paracetamol consumption post-caesarean section can be predicted using Pain Matcher®, a portable device that generates a painful stimulus by increasing electrical pulses from a unit placed between the patient’s fingertips. Preliminary findings indicate a correlation between site of uterine repair and anesthesia used, with post-operative pain.

References