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15. Comparison of two different methods for labor analgesia depending on the mode of epidural infusion administration (continuous or intermittent)

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Introduction: The use of a local anesthetic solution with opioids as a continuous epidural infusion administration during labor is controversial. It is considered to prolong the second stage of labor and to increase the total delivered dose of anesthetic, without improving the analgesia in comparison with the usage of the same solution in intermittent bolus doses, periodically. This study is designed to compare these two techniques.

Materials and methods: In this study, 60 parturient women were included. Labor analgesia started with a single bolus dose of 10 mL ropivacaine 0.1% administered epidurally in both groups. Group A was, subsequently, given epidurally Ropivacaine 0.15% with Fentanyl 2 μgr/mL in continuous infusion with a rate of 10 mL/h throughout labor, while Group B was given the same dose per hour but in two bolus doses of 5 mL administered every 30 min. In both groups, we had the possibility of additional bolus doses of 5 mL of the same solution with a lock out interval of 20 min. The total dosage received, the duration of the 2nd stage of labor, the method of delivery (assisted or not, Cesarean section), the motor activity (using the Bromage scale) and the pain intensity (using the VAS 1–10, every 20 min) were evaluated.

Results: No statistically significant differences were observed in the duration of labor (one way ANOVA), in the Bromage score and in the method of delivery between the two groups (x^2 test). No differences were also observed in the recordings of pain intensity between the two groups (two-way ANOVA for repeated measurements), but in some specific instances Group A presented higher VAS score, although the total dosage of local anesthetic received was greater in this group compared to group B (180 mL vs. 162 mL, $p = 0.04$).

Conclusions: The use of intermittent epidural bolus doses compared to a continuous infusion technique is associated with lower total consumption and periodically better pain management.