

Epidural Top-Up for Caesarean Section: A Retrospective Observational Study

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Introduction: Epidural top-up is a recommended anesthetic technique for patients undergoing cesarean section (c-section) who already have an epidural catheter in place. This study aims to analyze the effectiveness of this approach and identify potential factors associated with the need for conversion to general anesthesia.

Methods: A retrospective, observational study in pregnant women who underwent a c-section under epidural top-up anesthesia between January 2021 and December 2021 was carried out.

Demographics, obstetric history, comorbidities, and drugs' doses that were used were obtained from electronic patient records. Linear and logistic regressions were applied for data analysis and a p-value < 0.05 was considered statistically significant.

Results: During the study period 320 patients received an epidural top-up anesthesia for c-section. 311 techniques were performed for urgent and 9 for emergent procedures. Conversion to general anesthesia was required in 13.7% of cases. In 20.3% of cases, ropivacaine (7.5%) was used, in 30.9% lidocaine (2%), and in 48.8% a mixture of both local anesthetics. In 12.6% of cases, adjuvant drugs sufentanil and bicarbonate were used. Although bicarbonate use appeared as a potential risk factor for conversion to general anesthesia, individual variable analysis and goodness of fit test did not support its significance.

Discussion and Conclusion: This study highlights the efficacy of the epidural top-up technique for urgent and emergent c-sections, with a conversion rate to general anesthesia consistent with findings from prior research (1).

However, our analysis didn't identify factors associated with an increased risk of technique failure.

It is important to note that this analysis was limited by the absence of clinical records for a subset of cases. Particularly, for top up techniques performed outside the operative room some drug and dosage information were not routinely documented in the anesthetic records.

Prospective studies are warranted to determinate potential factors contributing to the failure of the anesthetic technique in this context, thus contributing to enhance the safety of anesthesia administration during cesarean procedures.

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