

General vs. Regional Anesthesia and Neonatal Data (GRAND). A Retrospective Propensity Score Matched Study.

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Abstract

Objective To evaluate whether there is a difference in immediate neonatal outcomes with general anesthesia (GA) vs. regional anesthesia (RA) when induction of anesthesia to delivery time (IADT) is prolonged ([?]10 minutes). **Methods** This is a retrospective case-control study that included cases from July 2014 until August 2020. We reviewed all singleton pregnancies delivered between 24 and 42 weeks of gestation with IADT [?] 10 minutes. The propensity score (PS) matching method was performed using baseline characteristics. Analyses were performed with SAS software version 9.4. **Results** During the study period, we identified 258 cases meeting inclusion criteria. After the PS matching was applied, the study sample was reduced to 60 cases in each group. The median IADT was similar between groups [41.5m (30.5,52) vs. 46m (38-53.5), p=0.2]. There was no significant difference between groups with respect to arterial cord pH [7.24 (7.21,7.26) vs. 7.23 (7.2,7.27), p=0.7]. Nor were there any associations between maternal characteristics and Apgar score at 5 minutes except Apgar score at 1 minute (p<0.001). No significant difference was identified in the rate of admission to the neonatal intensive care unit (NICU) [11 (52.4) vs. 10 (47.60), p=0.8] or NICU length of stay between GA vs. RA [4(3-14) vs. 4.5(3-11), p=0.9]. **Conclusion** Our data indicate that with prolonged IADT, favorable neonatal outcomes are seen with both GA and RA, in contrast with previous studies performed decades ago. This underscores the need for re-appraisal of historic outcomes reflecting new modalities, techniques, and advances in the medical field.

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