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Anesthesiologist/Obstetrician Combinations Influence Choice of Anesthesia for Cesarean Delivery in a Serbian Obstetric Hospital

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Introduction: In Serbia, the use of regional anesthesia (RA) in obstetrics has been low, despite local efforts to increase its use. A multi-year Kybele program was started in 2012 to help train physicians at the Clinical Center Vojvodine (CCV), Novi Sad, Serbia in the use of RA techniques for labor and cesarean delivery (CD). Last year we reported significant differences in use of RA between anesthesiologists1 and marginally statistically significant differences among obstetricians2. The present study looked at anesthesiologist/obstetrician pairs and their influence on the type of anesthesia for CD.

Method: From the CCV delivery database for 1/1/2016-12/31/2016, data on the use of general anesthesia (GA) and RA for elective and non-elective CD were obtained. A generalized mixed linear model was constructed with the administration of GA as the dependent variable (modeled as Bernoulli-distributed). Indication for CD (elective v. non-elective) was introduced as a fixed factor. Anesthesiologist/obstetrician combinations were introduced as a random effect. The technique of best linear unbiased estimators (BLUEs) was used to generate a listing of estimated mean probabilities of GA (pGA) for each anesthesiologist/obstetrician pair, controlling for indication (whether CD was elective/non-elective).

Results: A total of 2117 cases, involving 10 anesthesiologists and 42 obstetricians (356 pairs) were studied. There was a highly significant difference (p<0.001) between elective pGA (mean 0.529; 95% CI 0.490-0.568; 1056 cases) and non-elective pGA (mean 0.753; 95% CI 0.716-0.791; 1052 cases). There was significant variability of GA among the 356 anesthesiologist/obstetrician pairs (p<0.001). Adjusted for indication, anesthesiologist/obstetrician pair-specific mean pGA ranged from 0.231 (95% CI 0.124-0.331) to 0.821 (95% CI 0.606, 0.932) Averaged across all obstetricians, mean anesthesiologist specific pGA ranged from 0.545 to 0.671. Variability in the percentage of CD under GA was larger among obstetricians, (range, 87% -33%) than among anesthesiologists (range, 73% - 38%).

Conclusion: The use of RA/GA between anesthesiologists/obstetrician pairs varies widely, suggesting that more effort should be placed in the education of pairs with the highest rate of GA. Alternatively, effort can be made to reassign an anesthesiologist or obstetrician from a pair to work with another anesthesiologist or obstetrician more willing to use RA. The greater use of RA/GA among elective cases is similar to that reported in our previous studies at CCV.

References: