Safety of Epidural or Spinal Analgesia in Parturients with Thrombocytopenia

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Introduction: The management of obstetric anesthesia in the setting of low platelets (PLTS) is controversial in part because evidence is limited to a single study of 30 patients from 1997.

Methods: We identified parturients with PLTS<100k between 1997-2007 (Medical University of South Carolina) and 2004-2007 (Brigham & Women's Hospital). Medians were compared using the Mann Whitney U test and rates were compared using the Chi Square test. A p value of <0.05 was considered significant. 95% confidence intervals for the risk of epidural hematoma were calculated using an exact binomial confidence interval.

Results: 280 patients had low PLTS (<100k) prior to anesthesia decision: preeclampsia (61.4%), gestational (14.6%), ITP (10.0%), and other (14.0%). Epidural rates were similar at both institutions (34.2% vs. 40.9% p=0.29). A total of 102 patients received epidural or CSE in the setting of low PLTS (range 28-99k). One spinal headache but no cases of epidural hematoma were observed. Combining our 102 patients with the previous series of 30, the upper limit of the 95% confidence interval for the probability of epidural hematoma was 2.8%. Patients who received epidural/CSE had a higher median platelet count than those who did not (87 (28-99)vs 72 (9-99k), p<0.001), but 9.8% of patients who received epidural had platelet counts ≤70k. In patients with low PLTS but did not receive epidural analgesia, the overall rate of subsequent general anesthesia was 38% overall and 47.4% in those requiring cesarean delivery. Rates of general anesthesia (GA) for cesarean delivery were higher in the Southeast (53.4 vs. 17.1%, p=<0.0001), largely due to higher rates of spinal anesthesia for cesarean (55.7 vs 26.3%). In patients receiving GA, 1 case of aspiration pneumonia, 3 case of prolonged intubation/reintubation and 1 case of hemoptysis were observed for a composite morbidity rate of 6.7%. In patients requiring cesarean delivery, 71 patient with low PLTS received spinal analgesia (range 51-99k). 3 patients received a platelet transfusion prior to placement. No apparent complications of anesthesia were documented. Of interest, only 24.8% of patients with thrombocytopenia were noted to have a ≥10% drop over 24 hours.

Conclusions: We present the largest series to date describing obstetric regional analgesia in women with low PLTS. The overall risk of epidural hematoma in the setting of PLTS <100k is 0 to 2.7%. The decision to avoid epidural analgesia has significant consequences for the patient, resulting in a 38% rate of GA, a procedure with a rare but finite risk of maternal mortality (32 per million). In addition, GA in our population was associated with significant maternal morbidity. Our work supports the relative maternal safety of epidural anesthesia with platelet counts of 70 to 99k and spinal anesthesia with platelet counts of 50 to 99k compared to GA.