

AnesthesiaDotCalm Newsletter



News You Can Use

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On the QT

Women with severe preeclampsia tend to have prolonged Q_{tc}^* intervals and spinal anesthesia tends to shorten these intervals. I've never noticed this before, but then I tend to look but not see. At least that's what my wife tells me. She reasons that most men have trouble identifying things because they lack a uterus. But I digress.

According to a recent study involving 50 women, 25 had severe preeclampsia of which 18 or 72% had prolonged Q_{tc} intervals(1). This was statistically significant when compared to a similar number of controls. The mean Q_{tc} interval was 452 ± 16.5 ms for the preeclamptic group and 378 ± 22.4 ms for the controls. Following the administration of spinal anesthesia the Q_{tc} interval returned to normal in the preeclamptic group and remained normal for at least 2 hours and all patients were discharged from the hospital (obviously, not the same day) without further incident. The authors concluded that a prolongation of the Q_{tc} interval is a frequent occurrence in patients with severe preeclampsia and that this occurrence results from the hypertension itself or from hypocalcemia which frequently accompanies this disease. This is a big hurrah for me because I have always felt that patients with preeclampsia, even the severe type, fair better under spinal anesthesia than general anesthesia. Yet I find their findings somewhat contentious. This might seem pedantic but I think the authors would have done better reporting the median values rather than the mean values. This is because the mean can be affected by a few scores that are either too high or too low and in this study I could not tell if the mean value was skewed by a few high scores. Had the median values been reported I would be able to tell if the distribution of values were skewed more to the high side.

The authors noted that in conducting their spinal anesthetics, all patients received lactated Ringer's solution which contains 3 mEq calcium. Could it not be that the improvement of the Q_{tc} interval be a result of the calcium and not the reduction in blood pressure especially when you consider that 14 of the 18 women with preeclampsia had hypocalcemia. Of course this raises another question: is the amount of calcium in a liter or two of calcium sufficient to correct the hypocalcemia associated with preeclampsia? Who knows, but at least, I'm going to be just a little more observant even if I don't have a uterus.

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* QT prolongation can lead to polymorphic ventricular tachycardia, or torsade de pointes, which itself may lead to ventricular fibrillation and sudden cardiac death.

Reference:

I. Sen S, Ozmert G, Turan H, Caliskan E, Onbasali A, Kaya D. The Effects of Spinal Anesthesia on QT Interval in Preeclamptic Patients. *Anesthesia & Analgesia* 2006;103(5):1250-1255.