GERTIE MARX

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PLATELET FUNCTION IN PREECLAMPSIA: PLATELET FUNCTION ANALYZER (PFA-100)VS TEG *Davies, J.; Fernando, R.; Hallworth, S. Anesthesia, Royal Free Hospital, London, United Kingdom* **Introduction:** The PFA-100 is a new benchtop platelet function analyzer which, by aspirating blood through a 150μm aperture in a collagen membrane, measures the speed of formation of a platelet plug in vitro, expressed as Closure Time (CT) in seconds[1].The aim of this study was to compare the performance of the PFA-100 and TEG in measuring platelet function in pre-eclamptic and healthy pregnant women. **Methods:** Following ethics committee approval blood samples were taken from 80 healthy term women and 41 preeclamptics (subdivided into mild and severe from established criteria). The CT was measured with a PFA-100 epinephrine cartridge using 800μl of 3.2% buffered citrated blood; the maximum amplitude (MA) of 360μl celite-activated whole blood was measured with a TEG 3000. Routine blood tests, fibrinogen and von Willebrand Factor (vWF) were also performed. Statistical analysis included ANOVA ($P<0.05$). **Results:** There were no significant differences in patient characteristics, Hb, Hct, fibrinogen and vWF. CT increased significantly with severity of preeclampsia whereas MA did not differ between groups. In patients with platelet counts below 100 (n = 5), CT was grossly elevated (mean = 239s) whereas MA (mean = 61mm) was just below our pregnancy 95% reference range (64 - 83mm) for celite activated whole blood. **Conclusion:** Impairment of primary hemostatic function with increasing severity of preeclampsia was revealed by the PFA-100 but not the TEG. The PFA may be a more sensitive method of determining platelet dysfunction before regional anesthesia. **Reference:** 1. Blood Coagul Fibrinolysis 1999:10:25-31

(Data are mean ± SD)	Control (n=80)	Mild Pre-eclampsia (n=20)	Severe Pre-eclampsia (n=21)	P value
CT (s)	103.2(16.9)	112.6(20.4)	139.2(43.2)	< 0.0001
Platelets x 10^9 L^{-1}	265.3(89.1)	230.8(76.9)	187.8(69.4)	0.01
MA (mm)	73.8 (4.3)	73.1 (4.7)	72.2 (5.6)	0.46

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LOW DOSE LIDOCAINE CAUSES TOXIC CHANGES IN NEURONAL MORPHOLOGY *Dadarkar, P.; Johnson, M.E.; Ubl, C.B. Anesthesiology, Mayo Foundation, Rochester, MN* Rapid onset and brevity of action have established the use of spinal lidocaine in obstetric anesthesia. However, it is associated with a rare but significant incidence of neurological injury.[1] Higher concentrations of lidocaine (>2.5%) have been shown to be neurotoxic *in vitro*, with equivocal toxicity at lower doses.[1] A more sensitive assay is blebbing: outpouching of the plasma membrane due to cytoskeletal proteolysis; an early initially reversible step in both apoptotic and necrotic cell death.[2] The neuronal cell line ND7 was exposed to lidocaine or equimolar Tris buffer controls. By 60 minutes, >90% of neurons exposed to lidocaine ≥1% were blebbed, vs. 40% for lidocaine 0.5% and <10% for control; with little change at 120 minutes and no cell death. Lidocaine causes reversible neuronal injury at lower, clinically pertinent dosages. Support: NIH R01 GM 59271 **Reference:** 1. Mayo Clinic Proc.2000;75:921 2. Gastroenterology 1995;108:252
(Figures shown at right)