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COMPARISON OF APGAR SCORES AND NEONATAL UMBILICAL ARTERIAL BLOOD GASES BETWEEN PREECLAMPSIA AND NORMAL PREGNANCIES

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Introduction: Preeclampsia is the main cause of maternal mortality, immature neonatal birth and perinatal death. Measurement of umbilical arterial blood PH has been widely adopted as an adjunct to the Apgar score for assessing the condition of newborn infants.

Aim: To study the Apgar scores and umbilical artery blood gases in neonates born from mothers with and without preeclampsia.

Methods: In a case-control study from 2008 to 2009, one hundred and forty women with preeclampsia and 140 with normal pregnancy were studied at Alzahra teaching hospital. Umbilical artery blood gases from clamped parts of umbilical cords were detected.

Results: The averages of 1st min and 5th min Apgar scores in case group were 5.2 ± 1.8 & 7.7 ± 1.7 versus 8.4 ± 0.8 & 9.8 ± 0.1 in control group respectively ($p < 0.001$). The mean umbilical arterial blood PH in case group was 7.08 ± 0.08 and 7.35 ± 0.05 in other group ($p < 0.001$). Prevalence of IUGR, seizure, sepsis, hyaline membrane disease and IVH were significantly higher in neonates born from preeclamptic mothers ($p < 0.001$).

Conclusion: None of Umbilical arterial blood gases and Apgar scores alone had the ability to predict the condition of the neonates perfectly but together they had more efficacy.

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EFFECT OF LENGTH, FLOW RATE, AND CONCENTRATION OF INFUSATE ON DELIVERY PRESSURES IN 1FR AND 2FR NEONATAL PICC LINES

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Background/aims: Neonatal infusion pumps are pressure limited. On our NICU, normally functioning 1Fr lines frequently exceed maximum pressure limits, and are either removed or flow rates reduced.

We aimed to measure pressures in neonatal PICC lines with varying flow rates and to determine the effect of reduction in length of catheter.

Methods: We infused increasing concentrations of dextrose and TPN $\pm$ lipid through standard 20cm length 1Fr (Premicath, Vygon) and 30cm 2Fr (Nutraline, Vygon) PICC lines at different rates from 1-10ml/hr. Premicath lines with and without stylet were tested at lengths of 20cm and 10cm. Flow-pressure relationships were determined using pressure monitoring infusion pumps (IVAC).

Results: Pressures generated in the 2Fr neonatal lines were significantly lower than those generated through 1Fr neonatal Premicath lines. Pressure recordings were similar between Premicath lines with and without stylet. Reduction in catheter length did produce a reduction in pressures generated especially at higher flow rates.

Pressures exceeded the standard pressure limit on our unit (150mmHg) at flow rates of approximately 6mls/hr.

[Flow Pressure Graph for 1Fr PICC lines]