Transfontanelar ultrasonography findings in newborns exposed to cocaine during the fetal period

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Statement of the Problem: Fetal exposure to cocaine may be associated with significant neurological injuries in neonates. Transfontanelar ultrasonography can be used in the neonatal period to diagnose these lesions because of being a low invasive method and presenting a good accuracy. The purpose of this study is to determine the prevalence of neurological alterations in babies born to mothers who consumed cocaine during pregnancy by the utilization of cranial ultrasonography method.

Methodology & Theoretical Orientation: Observational, case-control, retrospective hospital-based study previously approved by a Brazilian Research Ethics Committee. Case group consisted of term newborns (NBs) exposed to cocaine in the fetal period. The exclusion criteria were prematurity and the presence of comorbidities. It was evaluated a total of 247 TFUS reports between January of 2015 and June of 2017, being 142 cases and 105 controls. The variables were analyzed by means of multiple logistic regression in function of drug exposure, adopting a level of significance of p value <0.05.

Findings: Of the 142 newborns exposed to cocaine, 26 (18.3%) had intracranial haemorrhage, 25 (17.6%) alterations in the grooves, 12 (8.5%) with cysts, 5 (3.5%) presented changes in the choroid plexus and only one (0.7%) had ventricular hypertrophy. No changes in midline and corpus callosum were identified. After multivariate analysis, the presence of hemorrhages (Coef B=-3.19; p value=0.002) and cysts (Coef B=+ 1.67; p value=0.032) were significantly associated with exposure to cocaine in the intrauterine period. The degree of adjustment determined by the Nagelkerke model was 15.4%.

Conclusion & Significance: The greater presence of neurological lesions observed in NBs exposed to cocaine reinforces the importance of considering these children as a particular risk group, indicating the early performance of transfontanelar ultrasonography in order to influence positively in the prognosis of these neonates.

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