

P-140 - URINARY ORGANIC ACIDS PROFILE EXCRETION CHARACTERIZATION IN NEONATAL POPULATION

Calvo AM¹, Guevara JM¹, Echeverri OY¹, Rojas C², Rodriguez E¹

(1) *Institute of Inborn Errors of Metabolism, Faculty of Sciences, Pontificia University Javeriana, Bogotá, Colombia*, (2) *Neonatal Unit, Olaya Polyclinic Center*

INTRODUCTION: Organic acidurias are inborn errors of metabolism that can occur from the first days of life. Diagnosis is made through the analysis of urinary organic acids (OA) excretion profile by Gas Chromatography-Mass Spectrometry (GC-MS). Factors such as specific dietary habits and age can influence such profile, especially in infant population due to dietary changes and the normal maturation process that occur in the first year of life. Previous studies evaluated population from 20 to 150 days of age who were exclusively breastfed and another group that consumed infant formulas (Calvo A. et al. 2016). However, up to now there is little evidence regarding the urinary OA profile in the first days of life. **AIM:** To describe and analyze the OA excretion profile of neonates between 5 to 72 hours of age. **METHODS:** Collection of urine samples was carried out at an institution at Bogota city, from neonates born at term with adequate weight. A survey was applied to the mothers regarding the feeding history. Chemical examination was performed to each sample using standard urine stick. Creatinine concentration was determined using a commercial Jaffé **METHOD:** For OA extraction a liquid-liquid extraction process was done to finally establish the OA profile using GC-MS. **RESULTS:** In OA profile observed we identify the presence of metabolites such as 2-hydroxybutyric, benzoic, acetoacetic, dehydrosuberic acids among others, which were not observed in a previous study with infant population (22 days-4 months). Likewise, we observe decreasing (lactic acid) or increasing tendency in different metabolites according to the age. **CONCLUSIONS:** Our results evidence the importance of characterizing the evolution of the OA profile in the first month of life, since the OA excretion profile is characteristic for each population, depending on the age, diet and the general metabolism. In fact, we evidenced changes in the excretion pattern of specific metabolites that, wrongly, may lead to organic acidurias suspicion if compared to the patterns available in literature, which correspond mainly to older children and adults. Thus, our results contribute to a better interpretation of OA profiles in newborn population in the context of diagnosis of organic acidurias.