**P-203 - NEONATAL SCREENING FOR CONGENITAL ADRENAL HYPERPLASIA: COMPARISON OF METHODS AND DEFINITION OF GESTATIONAL AGE RELATED CUTOFF VALUES**

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**INTRODUCTION:** Congenital Adrenal Hyperplasia screening is mandatory in Argentina since 2007. Neonatal screening in public health system is organized as a network of jurisdictional laboratories supplied by National Secretary of Health. Adoption of a new analytical system (Quantase - BioRad) determined the need to reevaluate cutoff values and compare their performance with a previously known methodology (DELFIA - PerkinElmer) used by the Newborn Screening Program of Buenos Aires City. **OBJECTIVE:** To compare both methods and to define cut-off values based on adjusted gestational age (aGA). **MATERIALS AND METHODS:** In 9870 dried blood samples from newborns, 17-hydroxyprogesterone (17OHP) was analyzed using two competitive immunoassays: Quantase Neonatal 17-OHP Screening (Evolys TwinPlus equipment) and DELFIA Neonatal α-17OHP (Victor fluorometer). Statistical analyses were performed using MedCalcV13.1.2 software. Linear regression between both analytical systems was done. CDC 17OHP QC material (Atlanta, USA) was evaluated at low, medium and high levels and were used to determine accuracy (Recovery %) and inter-assay precision (CV%). Bland Altman analyses were performed. To define cut-off values, samples were divided into aGA groups whose mean 17OHP was statistically different. For each one, population parameters mean and 99th percentiles (99p) were evaluated. **RESULTS:** a) Regression analysis: $17\text{OHP}_{\text{BioRad}} \ (\text{nmol/l}) = 4.613 + 1.028 \times 17\text{OHP}_{\text{PerkinElmer}} \ (\text{nmol/l}) \ 95\% \text{CI} a: [3.897; 5.3300]$ and b: [0.9823; 1.0743] \ p<0.0001, b) CDC 17OHP QC (nmol/L blood): Recovery%: PerkinElmer (n=12)= Low: 89.9, Medium: 111.6, High: 113.3; BioRad (n=9)= Low: 93.7 Medium: 85.9 High: 87.2. CV%: PerkinElmer (n=12)= Low: 13.1, Medium: 12.5, High: 15.6; BioRad (n=9)= Low: 14.2, Medium: 19.3, High: 17.7. c) Limits of agreement from Bland Altman difference and ratio plots: Mean(±1.96 DS)= -4.9 (-20.6 to 10.6) and 0.7 (-0.4 to 1.8) (nmol/L blood). d) Statistical parameters: F-ratio: 161.3; p<0.001, Scheffé test for all pairwise comparisons: aGA groups (weeks): mean and 99p (nmol/L blood): <34 (n=206): 56.3 and 291.5; 34 (n=140): 41.1 and 260.6; 35 (n=206): 32.7 and 125.7; 36 (n=413): 22.7 and 71.0, 37 (n=744): 17.9 and 58.6, >37 (n=8161): 12.8 and 39.9. **CONCLUSIONS:** Quantase Neonatal 17-OHP Screening demonstrated good agreement and analytical performance compared to DELFIA. It was able to obtain preliminary cut-off values corrected for aGA.