P-241 - NEOnatal SCREENING PROGRAM KEY INDEXES IN A NEOnatal INTENSIVE CARE UNIT (NICU)

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INTRODUCTION: There is scarce information about Neonatal Screening Program Key Indexes applied to babies in a neonatal intensive care unit (NICU).

OBJECTIVE: The purpose of this study was to compare retrospectively the rates of recall (RR) and detection (DR) observed in the NICU with those of general public maternities from Buenos Aires City.

MATERIALS AND METHODS: Newborn screening for Congenital Hypothyroidism (CH) (TSH), Hyperphenylalaninemia (HPA) (Phenylalanine), Cystic Fibrosis (CF) (IRT/IRT), Congenital Adrenal Hyperplasia (CAH) (17OHP), Galactosemia (Gal) (Total galactose) and Biotinidase Deficiency (BIO) was done in 27,842 newborns from 2 maternities (96%) (G1) and in 1,238 from NICU (4%) (G2). RR and DR from 2009 to 2017 were calculated and compared (Fisher t test and chi2 test).

RESULTS: In G1, with a median age of sampling of 3 days, RR due to preanalytical causes was 2.1% (0.15% inadequate samples and 1.95% other causes (medication, blood transfusions, fasting). Positive screening results led to a RR of 2.7% (CH: 0.29%; CF: 1.18%; HPA: 0.03%; CAH: 0.49%; Gal: 0.47% and BIO: 0.22%). Global DR was 0.13% (1/752), detecting: 25 CH (1/1.114), 6 CF (1/4.640), 3 CAH (1/9280) 1 Gal, 1 BIO and 1 HPA with a median age of diagnosis confirmation and treatment (MADT) for CH: 14 days (range 6-25), CF: 29 days (20-60), CAH: 4 days (3-11), Gal: 6 days, BIO: 30 days and HPA: 12 days. In G2 median age of sampling was 14 days. RR for preanalytical causes was 20.6% (inadequate samples 1.86%, and other 18.8%) (p< 0.01 vs. G1). A positive screening result triggered a RR of 11.6% (4.5 times higher than G1) (CH: 1.05%, CF: 4.38%; HPA: 0.32%; CAH: 3.29%; Gal: 1.05%; and BIO: 1.53%). Global DR was 0.73% (1/137), (p< 0.01 vs. G1) identifying 7 CH (1/176), 2 CF (1/619) and 1 CAH (1/1.238) with a MADT of 32 days (13-52) for CH, 31 days (30-33) for CF and 3 days for CAH.

CONCLUSIONS: Neonatal screening in the NICU is complex with higher RR for either causes but also a higher DR. In our NICU population RR for CF and CAH were very high and need revision.