P-207 - COMPARISON OF TWO NEWBORN SCREENING ALGORITHMS FOR CYSTIC FIBROSIS

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\textbf{INTRODUCTION:} Despite being a very common hereditary pathology, cystic fibrosis (CF) is difficult to diagnose, and although its inclusion in newborn screening (NBS) improves its detection, it is influenced by pre-analytical, analytical and post-analytical factors. In order to improve diagnostic efficiency, changes have been made to the NBS Provincial Program in Misiones. \textbf{OBJECTIVE:} To compare results obtained with different NBS algorithms in two periods. \textbf{MATERIALS AND METHODS:} The following data were analyzed, extracted from the NBS Provincial Program records: number of studied newborns; number of high Immunoreactive Trypsin (IRT); successful recitations by high IRT results in first sample; number of diagnosed patients. These data were compared for the 2012 - 2017 period (IRT/IRT/Sweat Test algorithm, with recitation of patients in charge of Ministry of Health, high IRT > 150 ng/ml); and 2018 (IRT/DF508 in first sample/IRT/Sweat test algorithm with recitation by the laboratory, high IRT > 100 ng/ml). All IRT were analyzed with MP Biomedical colorimetric ELISA kit. \textbf{RESULTS:} For each period, results were, respectively: analyzed patients, 74655 and 15705; high IRT, 47/year (mean) and 91/year; successful recitations 90 (32\% of 282) and 69 (76\% of 91); patients diagnosed 9 (1: 8295) and 9 (1: 1745). In the 2018 period, the DF508 mutation was detected in the first NBS sample in 7 patients, 3 in the homozygous state and 4 heterozygotes, representing 55.5\% of the alleles. \textbf{CONCLUSIONS:} Diagnosis of CF from NBS improved markedly with the new proposed algorithm, despite a marked increase in recitations that were maintained at an adequate level of recall (below 1\%). Searching for more CFTR mutations in the first sample and the choice of an IRT cut-off point that decreases recitations without loss of diagnostic sensitivity will make it possible to increase the efficiency of the Provincial Program.