P-190 - REVIEW OF THE NEONATAL TSH CUT-OFF IN THE CENTRAL LABORATORY OF THE SAN LUIS HOSPITAL - ARGENTINA

Lucero V, Pastrán A, Romero C, Gimenez M, Dominguez J, Di Sisto G

Laboratorio Central Hospital San Luis. San Luis. Argentina.
valsolucero@hotmail.com

**INTRODUCTION:** Congenital Hypothyroidism (CH) is the most frequent endocrinopathy in the neonatal period and one of the most common causes of preventable mental deficiency. Usually it does not present signs or symptoms at the time of birth, reason why its immediate diagnosis through neonatal screening and early treatment are of vital importance. **OBJECTIVE:** To compare neonatal TSH recitation rates using two different commercial kits and to adjust the cut-off point currently used by our laboratory. **MATERIALS AND METHODS:** 2842 dried blood samples collected on filter paper Whatman # 903 between 48 hours and 5 days of life were analyzed using the QuantaseTM Neonatal TSH Screening Kit (Bio-Rad) (Cut-off: 9 mUI/L). Those samples with TSH above 9 mUI/L were also analyzed using the UMELISA TSH NEONATAL Kit (TecnoSUMA) (Cut-off: 8 mUI/L) and such newborns were recited for the TSH measurement on a second sample collected on filter paper and for the TSH and Free-T4 determinations in serum (Advia Centaur XP autoanalyzer). **RESULTS:** Out of the 2842 newborns tested, 49 had TSH higher than 9 mUI/L (Bio-Rad). 40/49 newborns showed normal values in the recitation; 5/49 were confirmed with CH and 4/49 gave TSH values in the range 10-20 mIU/L, both on filter paper and serum. These newborns were followed by the endocrinologists and before the month of life their values became normal. When the 49 samples with abnormal TSH by Bio-Rad were analyzed using the SUMA technology, the 5 newborns diagnosed with CH showed abnormal results, other 6 gave values higher than the corresponding cut-off, and 38 gave normal values. The recitation rate using the Bio-Rad technique was 1.72%, while in the same period of the previous year the recitation rate using the SUMA technology was 0.55%. **CONCLUSIONS:** Due to the higher recitation rate working with the Bio-Rad kit compared to the SUMA technology, we proposed to adjust the Bio-Rad cut-off value to 12.3 mUI/L, which was obtained through a ROC curve analysis with an area below the curve of 0.934 (95% CI 0.857-0.976) with a sensitivity of 83.3 and a specificity of 90.1.