

Validation of Cord TSH as Screening for Congenital hypothyroidism in Neonates

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Abstract:

Background: Congenital hypothyroidism is the most common preventable cause of mental retardation. However, the disease is asymptomatic. Once symptoms appear, the neurologic deficit is irreversible. There are two types of screening namely T4 or TSH screening. Cord blood screening is a painless, non-invasive and more parent-friendly form of thyroid screen with high acceptability rates. We aim to analyze through this retrospective study, the incidence, sensitivity, specificity of the test.

Methods: This is a retrospective study conducted in tertiary care neonatal unit of an urban population from Jan – December 2016. All neonates were included in the study. Data was collected from the online laboratory information and entered into an excel sheet. Other neonatal data were obtained from NNPD database. A TSH cut off of 20 mIU/L was taken as positive. Data was analysed using SPSS.

Results: The total number of live births were 2682. The total number of cord blood samples were 2607. There were 29 samples whose quantity was not sufficient. The number of positives was 178 (9 true positive, 143 false positive , 26 rescreen not done). The total number of true negatives were 2400 (79true neg, 4 false negative, not repeated as negative 2317) . One infant had central hypothyroidism. The incidence of congenital hypothyroidism was 1 in 298. The ROC curve had an area of 0.846 (p value < 0.01) . With a cut off of 11 , sensitivity if 78.2% and specificity of 80% was obtained

Conclusion: Cord TSH is a good screening test with a good sensitivity and specificity.

Key words: TSH, Congenital Hypothyroidism

