

Complex Genetic Disorders, Genetic Susceptibility to Infections

AB123. Correlation between neonatal TSH and maternal urinary iodine: perspective from a developing country

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Background: The cross-sectional study was carried out to assess the correlation between neonatal TSH and maternal urinary iodine levels and to assess the iodine status of the study population.

Methods: Neonatal TSH samples were collected as a part of newborn screening project (NBS) between 24–48 hours. Urine samples were collected between day 2–7 postpartum from 400 mothers whose neonates had TSH value >5 mIU/L.

Results: The iodized salt consumption in our population was 97.5%. The mean urinary iodine concentration (UIC) in mothers was 259 $\mu\text{g/L}$. While iodine deficiency (<100 $\mu\text{g/L}$) was present in only 10% of the subjects, iodine

excess (>300 $\mu\text{g/L}$) was present in 54% of the study subjects. The prevalence of neonatal TSH with values >5 mIU/L in our study period was 12.1%. Mothers who underwent caesarean section had statistically high urinary iodine levels ($P=0.0001$). There was no significant correlation between neonatal TSH values of >5 mIU/L and maternal urinary iodine levels.

Conclusions: There was no correlation between neonatal TSH and maternal urinary iodine levels as the population had no iodine deficiency. Iodine excess was present probably due to use of povidone iodine antiseptics in caesarean section as well as due to improvement in universal salt iodization programs. In areas which are iodine depleted, neonatal TSH estimation alone is not a good surrogate marker for iodine status of the population. Prospective follow up of these neonates needs to be done in order to evaluate the implication of excess iodine in suppressing neonatal thyroid function.

Keywords: Neonatal TSH; iodine; developing country; newborn screening

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