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To Study Small for Gestational Age as a Risk Factor for Thyroid Dysfunction

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Abstract : Introduction: The normal development and maturation of the central nervous system is significantly influenced by thyroid hormones. Small for gestational age (SGA) babies have a distinct hormonal profile than kids born at an acceptable birth weight for gestational age, according to several studies (AGA). In SGA babies, thyroid size is larger when expressed as a percentage of body weight, indicating that low thyroid hormone levels throughout foetal life may be partially compensated for. Numerous investigations have found that compared to full-term and preterm AGA neonates, SGA babies exhibit considerably decreased thyroid plasma levels. According to our hypothesis, term and preterm SGA newborns have greater thyroid-stimulating hormone (TSH) concentrations than those that are normal for gestational age (AGA) and a higher incidence of thyroid dysfunction. Need for the study: Clinically diagnosed Assessment of term SGA babies confirming thyroid dysfunction unclear Requirement and importance of ft4 along with tsh and comparative values of ft4 in SGA babies as compared to AGA babies unclear. Inclusion criteria : SGA infants including preterm (<37 weeks of gestation) term (37-40 weeks) – comparing with preterm and term AGA infants. 3.76 7.66 0 2 4 6 8 10 12 AGA Babies SGA Babies Mean Mean TSH Comparison 2.73 1.52 0 0.5 1 1.5 2 2.5 3 3.5 4 AGA Babies SGA Babies Mean Mean FT4 Comparison Discussion : According to this study, neonates with SGA had considerably higher TSH levels than newborns with AGA. Our findings have been supported by results from earlier research. The TSH level range was established to 7.5 mU/L in the study by Bosch-Giménez et al, found greater TSH concentrations in SGA newborns. Thyroid hormone levels from newborns that are tiny for gestational age were found to be higher than AGA in our investigation. According to Franco et al., blood T4 concentrations are lower in both preterm and term SGA infants, while TSH concentrations are only noticeably greater in term SGA infants compared to AGA ones. According to our study analysis, the SGA group had considerably greater FT4 concentrations. Therefore, our findings are consistent with those of the two studies that SGA babies have a higher incidence of transient hypothyroidism and need close follow-up. Conclusions: A greater frequency of thyroid dysfunction and considerably higher TSH values within the normal range were seen in preterm and term SGA babies. The SGA babies who exhibit these characteristics should have ongoing endocrinologic testing and periodic TFTs.

Keywords : thyroid hormone, thyroid function tests, small for gestationl age, appropriate for gestational age
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