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**TSH LEVEL IN VARIOUS AGE GROUPS OF PREGNANCY AND ITS RELATION WITH SERUM MAGNESIUM CONCENTRATION**

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**ABSTRACT**

Background: Alteration of thyroid hormone profile is common in pregnancy. Very few studies have been done on the level of Thyroid Stimulating Hormone in different age group of pregnancy and its association with serum magnesium, especially at this geographical location. Thyroid hormones are one of the key factors for regulation of metabolism which has immense importance for fetal growth. Many factors interplay to regulate synthesis and secretion of them and maintain Thyroid Stimulating Hormone level thereby. Magnesium is an important factor in such regulation. It acts as a cofactor of ATPase and along with selenium also activates deiodenase. Both of these are required for thyroid hormone synthesis. Hence there might be a relation between serum TSH and magnesium.

Methods: 90 pregnant study participants in their first trimester of gestation were distributed equally in three groups depending on their age distribution of pregnancy. The groups were Group A (upto 20 years), Group B (> 20 years to 30 years), Group C (> 30 years to 40 years) with 30 participants in each group. Serum TSH and magnesium were measure in 12 hours fasting venous blood sample.

Results: No significant difference in mean Thyroid Stimulating Hormone and magnesium were found in three age groups (*p=0.29*). But when all participants were taken together serum Thyroid Stimulating Hormone and magnesium showed a significant negative correlation (*r= –0.44, p<0.05*)

Conclusion: Serum Thyroid Stimulating Hormone does not alter significantly with increase age group of pregnancy. Serum Thyroid Stimulating Hormone level increases with decrease of serum magnesium.

Keywords: ATPase, deiodenase, magnesium, Thyroid Stimulating Hormone