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Maternal and perinatal outcome in pregnant patients with subclinical hypothyroidism

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Introduction: Pregnancy is associated with major changes in the thyroid function. The thyroid function is very closely related to the reproductive performance in women. Hypothyroidism is one of the most common endocrinopathy seen during pregnancy. Approximately 5% of all pregnancies are affected by hypothyroidism. Majority of such cases have subclinical hypothyroidism, which is defined by an elevated serum thyroid stimulating hormone (TSH) concentration ≥ 3.00 mU/L and a serum free thyroxine (FT4) in the normal range, i.e., between 0.80 to 1.90 ng/dl. Hypothyroidism has been associated with pregnancy complications such as preeclampsia, preterm labor, low birth weight, placental abruption, recurrent abortions, perinatal death and congenital hypothyroidism in the newborn. There has been a lot of debate on the impact of subclinical hypothyroidism and pregnancy outcome. Therefore, we did this large scale, multi-institutional prospective study to evaluate the consequences of subclinical hypothyroidism on pregnancy outcome.

Materials and methods: It is a multi-institutional prospective study conducted in the Northern part of India over a period of 42 months. All pregnant women registered at our antenatal clinics between July 2009 and December 2013 were screened for thyroid dysfunction by serum TSH and free serum T4 using an immunometric TSH assay. Out of them, 210 women with TSH concentration ≥ 3.00 mU/L and a serum free thyroxine (FT4) in the normal range, i.e., between 0.80 to 1.90 ng/dl were recruited as cases and similar number of controls were recruited with normal TSH and free T4 values. These patients were followed up, delivered at the same hospitals and their maternal and perinatal outcomes were compared.

Results: Of all patients screened, 210 subclinically hypothyroid pregnant women fulfilled our inclusion criteria. There was a significantly higher risk of spontaneous abortions, placental abruption, preterm labor, abruption placentae, low birth weight and neonatal hypothyroidism in pregnancies with subclinical hypothyroidism.

Conclusion: Pregnancies with subclinical hypothyroidism have significantly higher number of adverse outcomes which can be potentially be prevented by thyroxine supplementation. So routine screening for hypothyroidism should be initiated for all pregnant women, however, more such studies are needed before making any conclusion.

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