



Maternal Thyroid Disorders, Labor Complications and Preterm Delivery



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Abbreviations: T3: Triiodothyronine; TSH: Thyroid Stimulating Hormone; TPOAb: Thyroperoxidase Antibody; Hcg: Human Chorionic Gonadotropin; BMI: Body Mass Index

Commentary

The normal behavior of delivery process is dependent on the normal supply of maternal thyroid hormones (THs; Thyroxine (T4) and 3,5,3-triiodothyronine (T3)) [1-77]. On the other hand, abnormalities in the activities of maternal thyroid function or thyroid autoimmunity may be increased the risk of the preterm birth [78]. In addition, [73] reported that congenital hypothyroidism with disorders in the levels of thyroid-stimulating hormone (TSH) can cause premature infants born at less than 30 weeks gestation. [71] Postulated that the congenital hypothyroidism can cause preterm delivery and severely decrease the birth and neonatal weight. Also, the subclinical hypothyroidism can cause a miscarriage in both the first and second trimester [77-82]. However, the subclinical hyperthyroidism does not alter the rate of preterm birth [63].

More interestingly, [80-83] recorded that the elevation in the rate of spontaneous miscarriage and preterm delivery can be attributed to the occurrence of thyroid antibodies in euthyroid pregnant [84]. These explanations strengthen the possibility that the thyroid autoimmunity rigorously diminished the thyroidal response to human chorionic gonadotropin (hCG) stimulation and that this might increase the risk of premature delivery in thyroperoxidase antibody (TPOAb)-positive women [85,64,74,75]. Also, the previous results are in concordance with those of the study carried out by [69,79,84] who reported that the gestational hypothyroidism is associated with an increased risk of intrauterine fetal death, habitual abortion, fetal retardation, anemia, fetal congenital anomalies, cardiac dysfunction, postpartum bleeding, and post-partum depression. This is probably can cause several adverse maternal, fetal and

neonatal outcomes including the perinatal morbidity and mortality [66,81,77].

Beside the thyroid disorders, there are several causes of preterm delivery such as multiple gestations, low body mass index (BMI) before pregnancy, African-American race, short cervix, intrauterine infection and increase the concentration of fetal fibronectin during the second half of pregnancy [70]. From the correlation between the previous observations and the current view, it can be inferred that the stability in the maternal hypothalamus-pituitary-thyroid axis (HPTA) displays substantial actions during the gestation and labor [86]. As well, the dysregulations in the levels of maternal THs may cause preterm delivery and several labor complications. These persistent problems may indicate the presence of several neonatal disorders in the future. However, these complications are complex and serious. Thus, following the activities of thyroid gland before the gestation may be essential to avoid the preterm delivery and labor problems. In addition, additional examinations are wanted to recognize and treat thyroid disorders with the goal of preventing the preterm delivery and several labor complications.

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