Anatomy Physiology & Biochemistry
International Journal
ISSN: 2476-1400

Juniper Publishers
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Commentary
Volume 4 Issue 3– March 2018
DOI: 10.19080/APBIJ.2018.04.555639

Anatomy Physiol Biochem Int J

Pregnancy and Postpartum Thyroiditis: Intimate Connections

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Submission: February 26, 2018; **Published:** March 07, 2018

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Abbreviations: THs: Thyroid Hormones; TPO: Thyroid Peroxidase; TSH-R: Thyroid-Stimulating Hormone-Receptor; Tg: Thyroglobulin

Commentary

The normal ranges of the maternal thyroid hormones (THs) during the gestation are required to get a regular development during the prenatal and postnatal periods [1-65]. On the other hand, postpartum thyroiditis represents as a transient thyroid disorders (inflammation in the thyroid gland) due to thyroid autoantibodies (positive thyroid peroxidase (TPO), thyroid-stimulating hormone-receptor (TSH-R) and thyroglobulin (Tg)) and lymphocytic infiltration of the thyroid that happens during the postpartum period [66-71]. The release of stored thyroxine (T4) and 3,5,3'-triodothyronine (T3) can cause a destructive thyroiditis and transient thyrotoxicosis. Postpartum thyroiditis can be classified into De Quervain's (painful subacute, granulomatous thyroiditis), Hashimoto's (chronic lymphocytic/ autoimmune), painless sporadic, painless postpartum, and Riedel'sthyroiditis (invasive fibrous thyroiditis)[68-70].

Postpartum thyroiditis can alter the cellular immunity as the following [65]:

1. Elevationthe thyroidal β cells [71]

2. Elevationthe peripheral large granular lymphocytes [72]

3. Increase the peripheral lymphocyte CD4+/ CD8+ratio [73,74]

4. Elevationthe thyroidal lymphocyte helper (CD4+)/ suppressor (CD8+) ratio [71]. Moreover, postpartum thyroiditis can change the humoral immunity as the following

a. elevation the complement activation [75]

b. Thyroid microsomal antibodies rebound [71], and

c. Increased IgG1 TPO antibody subclass [76]. In addition, amiodarone, lithium or therapy using interferon-α and interleukin-2 are a common causes of postpartum thyroiditis [68,69,71]. On the other hand, there are several symptoms of postpartum thyroiditis such as fatigue, palpitations, muscle stiffness, irritable, tachycardia, depression, psychoneurosis, anxiety, hair loss, weight loss, dry hair, coldness, careless, and impaired concentration/memory [66].

From the previous data, it can be concluded that postpartum thyroiditis may interrupt the actions of THs and cause several complications during the neonatal and adulthood periods. However, the mechanisms underlying postpartum thyroiditis remain indefinite. The present view highlights the necessity to measure thyroid autoantibodies, a marker for early detection of postpartum thyroiditis, in the first trimester of pregnancy. Also, following the thyroid function should be acquired in antibody-positive dam at the initial and final postpartum stages (at 3 and 6 months after delivery). Thus, adjustment of thyroid functions is warranted to avoid postpartum thyroiditis and to improve the adulthood consequence. Further experiments are needed to determine the association between pregnancy, postpartum thyroiditis and neonatal and adulthood consequences, and to discover new diagnostic assays or treatments [77-85].

Conflict of Interest

The author declares that no competing financial interests exist.

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How to cite this article: Ahmed RG. Pregnancy and Postpartum Thyroiditis: Intimate Connections. Anatomy Physiol Biochem Int J: 2018; 4(3): 555639. DOI: 10.19080/APBIJ.2018.04.555639.

DOI: 10.19080/APBIJ.2018.04.555639