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МЕНОПАУЗАЛЬНОГО ПЕРЕХОДА ПО ДАННЫМ АМБУЛАТОРНОГО СКРИНИНГА/STRUCTURE OF CONCOMITANT GYNECOLOGICAL AND EXTRAGENITAL PATHOLOGY IN WOMEN DURING THE MENOPAUSAL TRANSITION ACCORDING TO OUTPATIENT SCREENING DATA/MENOPAUZA DAVRIDAGI AYOLLARDA AMBULATOR SKRINING MA'LUMOTLARIGA KO'RA QO'SHMA GINEKOLOGIK VA EKSTRAGENITAL PATOLOGIYA TUZILISHI.....	54
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Samarkand, Uzbekistan**AUTOIMMUNE THYROIDITIS AND PREGNANCY****For citation:** Kamalova Dilafruz Doniyorovna, Kamalova Nigora Bobir qizi, Kamalova Dilnoza Bokhodirowna, Autoimmune Thyroiditis and Pregnancy, Journal of reproductive health and uro-nephrology research 2026 vol 7 issue 2<http://dx.doi.org/10.5281/zenodo.20904474>**ABSTRACT**

Autoimmune thyroiditis is one of the most common endocrine diseases of women of reproductive age and an important clinical issue during pregnancy. Characterised by immune-mediated dysfunction of the thyroid gland and the detection of autoantibodies against thyroid gland structures, this condition may be asymptomatic or develop some biochemical changes that become of clinical importance in the face of increased physiological demands of gestation. Even in euthyroid women, thyroid autoimmunity has been linked to adverse obstetric and neonatal outcomes, so it is important to conduct careful evaluation and monitoring. This study was carried out in order to determine the extent to which autoimmune thyroiditis affected the course of pregnancy and perinatal effects with special reference to maternal thyroid function dynamics and foetal adaptation. A method of observational clinical management was adopted, which included regular antenatal and endocrine evaluation. Maternal thyroid function tests, antibody status, pregnancy complications and neonatal outcomes were analysed to look for patterns having a clinical meaning. The results showed that autoimmune thyroiditis is linked to a higher risk of pregnancy complications, such as threatened miscarriage, premature delivery and growth restriction of the foetus, especially in women who developed hypothyroidism during pregnancy. Neonatal outcomes showed an increased incidence of low-birth weight and increased neonatal intensive care requirement in the pregnancies when the mother had a thyroid dysfunction.

Keywords: Autoimmune Thyroiditis Pregnancy Complications Hypothyroidism, Thyroid auto antibodies, Perinatal Outcome

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Самарканд, Узбекистан**АУТОИММУННЫЙ ТИРЕОИДИТ И БЕРЕМЕННОСТЬ****АННОТАЦИЯ**

Аутоиммунный тиреоидит является одним из наиболее распространённых эндокринных заболеваний у женщин репродуктивного возраста и важной клинической проблемой во время беременности. Характеризуясь иммунно-опосредованной дисфункцией щитовидной железы и выявлением аутоантител к структурам щитовидной железы, данное состояние может протекать бессимптомно или сопровождаться определёнными биохимическими изменениями, которые приобретают клиническую значимость на фоне повышенных физиологических потребностей гестации. Даже у эутиреоидных женщин тиреоидная аутоиммунность связана с неблагоприятными акушерскими и неонатальными исходами, поэтому важно проводить тщательную оценку и мониторинг. Данное исследование было проведено с целью определить, в какой степени аутоиммунный тиреоидит влияет на течение беременности и перинатальные эффекты, с

особым акцентом на динамику функции щитовидной железы у матери и адаптацию плода. Был применён метод наблюдательного клинического ведения, который включал регулярную антенатальную и эндокринологическую оценку. Показатели функции щитовидной железы у матери, статус антител, осложнения беременности и исходы у новорождённых были проанализированы для выявления клинически значимых закономерностей. Результаты показали, что аутоиммунный тиреоидит связан с более высоким риском осложнений беременности, таких как угроза выкидыша, преждевременные роды и задержка роста плода, особенно у женщин, у которых развился гипотиреоз во время беременности. Неонатальные исходы показали повышенную частоту низкой массы тела при рождении и возрастание потребности в отделении реанимации и интенсивной терапии новорождённых в тех беременностях, когда у матери отмечалась дисфункция щитовидной железы.

Ключевые слова: Аутоиммунный тиреоидит, Осложнения беременности, Гипотиреоз, Тиреоидные аутоантитела, Перинатальный исход

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AUTOIMMUN TIREOIDIT VA HOMILADORLIK

ANNOTATSIYA

Autoimmun tireoidit reproduktiv yoshdagi ayollarda eng ko'p uchraydigan endokrin kasalliklardan biri va homiladorlik davrida muhim klinik muammo hisoblanadi. Qalqonsimon bez faoliyatining immun vositachiligida buzilishi va qalqonsimon bez tuzilmalariga qarshi autoantitalarning aniqlanishi bilan tavsiflanadigan ushbu holat simptomsiz kechishi yoki homiladorlikning ortib boruvchi fiziologik ehtiyojlari fonida klinik ahamiyat kasb etadigan ayrim biokimyoviy o'zgarishlar bilan namoyon bo'lishi mumkin. Hatto eutireoid ayollarda ham qalqonsimon bez autoimmuniteti akusherlik va neonatal salbiy natijalar bilan bog'liq bo'lgani uchun ehtiyotkor baholash va monitoring o'tkazish muhimdir. Ushbu tadqiqot autoimmun tireoiditning homiladorlik kechishiga va perinatal ta'siriga, xususan, onada qalqonsimon bez funksiyasi dinamikasi va homilaning moslashuviga qay darajada ta'sir etishini aniqlash maqsadida o'tkazildi. Kuzatuvga asoslangan klinik boshqaruv usuli qo'llanildi, u muntazam antenatal va endokrin tekshiruvlarni o'z ichiga oldi. Klinik ahamiyatli qonuniyatlarni aniqlash uchun onaning qalqonsimon bez funksiyasi testlari, antitana holati, homiladorlik asoratlari va neonatal natijalar tahlil qilindi. Natijalar autoimmun tireoidit homiladorlik asoratlari xavfining ortishi bilan bog'liqligini ko'rsatdi, masalan, tahdidli tushish, muddatidan oldin tug'ruq va homila o'sishining cheklanishi, ayniqsa homiladorlik davrida gipotireoz rivojlangan ayollarda. Neonatal natijalar esa onada qalqonsimon bez disfunktsiyasi bo'lgan homiladorliklarda past tana vaznida tug'ilish va neonatal intensiv terapiyaga ehtiyojning ortgan uchrashini ko'rsatdi.

Kalit so'zlar: Autoimmun tireoidit, Homiladorlik asoratlari, Gipotireoz, Qalqonsimon bez autoantitalari, Perinatal natija

Introduction

Autoimmune thyroiditis is one of the most prevalent endocrine diseases of reproductive-age women and has a central position among the thyroid diseases encountered during pregnancy. Characterised by immune-mediated destruction of the thyroid tissue and the presence of circulating thyroid autoantibodies, the development of this condition can be silent and for years it will be clinically unrecognised. Pregnancy, however, brings about significant physiological and immunological changes which may unmask or accentuate underlying thyroid dysfunction and make autoimmune thyroiditis very relevant in obstetric practise [1].

Thyroid hormones are involved in critical processes of a normal pregnancy throughout the development of the placenta, metabolic adaptation of the mother, and neurodevelopment of the fetus. During early gestation, the fetus is totally dependent on the maternal supply of thyroid hormone and therefore even subtle disturbances of maternal thyroid function have clinical significance. Autoimmune thyroiditis, including euthyroid thyroiditis, has been linked to a greater risk of adverse pregnancy outcomes, such as miscarriage, preterm birth and impaired foetal growth [2]. These associations have led to a change of focus in the clinical approach to identify and follow up affected women earlier.

From an immunological point of view, pregnancy is a special state of immune modulation and not a straight suppression. While this adaptation is associated with foetal tolerance, it may also change the course of autoimmune diseases. In some women, thyroid autoimmunity becomes less active during pregnancy only to be flared up in the postpartum period, whereas in others, progressive thyroid dysfunction occurs with gestation itself [3]. This variability makes it difficult to predict the behaviour of disease and problematises standardised approaches to managing them.

Despite the awareness, autoimmune thyroiditis is still underdiagnosed in pregnant populations, especially if there is no overt hypothyroidism. Routine thyroid function tests can be normal, so there is false reassurance, and the underlying autoimmunity will continue to have subtle but clinically important effects. Several studies have shown that the presence of thyroid peroxidase antibodies alone, despite normal levels of thyroid-stimulating hormone, is related to a poorer obstetric outcome [4]. These findings raise important questions about screening strategy and treatment thresholds during pregnancy.

Advances in both endocrinology and obstetrics have resulted in constant debate on the optimal management of autoimmune thyroiditis in pregnancy. While the benefits of therapy in the presence of overt hypothyroidism are clear, the benefits of therapy in euthyroid women with thyroid autoimmunity remain an area of active research. International guidelines are undergoing continual revision, based on the accumulating evidence of a relationship between thyroid autoimmunity and the risk to mother and foetus [5].

This study is aimed at investigating autoimmune thyroiditis in relation to pregnancy with special focus on its clinical presentation, maternal and foetal impact and implications on antenatal care. Combining clinical observation and up-to-date evidence, this work aims at supporting a more nuanced and individualised approach to the management of thyroid autoimmunity during pregnancy [6].

Methods

This observational clinical study was aimed at determining the impact of autoimmune thyroiditis on the course of pregnancy and maternal and fetal outcomes under routine clinical conditions. A non-interventional design was deliberately chosen to represent the scenario in clinical practice: a dynamic laboratory finding and individualised clinical judgement are used to make management decisions rather than an experimental protocol. The overall methodological approach was in

keeping with the current international recommendations for management of thyroid disease in pregnancy [7].

Pregnant women were included in the first and second trimesters of pregnancy using the antenatal and endocrinology services. Inclusion criteria included singleton pregnancies in women with confirmed autoimmune thyroiditis (presence of thyroid peroxidase antibodies), regardless of baseline thyroid function. Both euthyroid and hypothyroid patients were included to reflect the heterogeneous clinical spectrum of thyroid autoimmunity in pregnancy, as emphasised in recent research in the field of endocrinology [8]. Women with non-autoimmune thyroid disorders, multiple gestations and other systemic autoimmune diseases were excluded to minimise confounding factors.

Baseline evaluation consisted of detailed medical and obstetric history with a specific focus on history of thyroid dysfunction, reproductive outcomes and current pregnancy complaints. Thyroid function was evaluated by the serum measurement of thyroid-stimulating hormone and free thyroxine. Autoimmune status was also confirmed by quantitative determination of thyroid peroxidase antibodies. All laboratory values were interpreted on the basis of trimester-specific reference values, taking into account the physiologic adaptations to hormonal status that are characteristic of pregnancy [10].

Clinical follow-up was undertaken at regular antenatal visits. Thyroid function tests were repeated periodically, in particular after the initiation and/or adjustment of levothyroxine therapy. Treatment decisions were based on the individual and current clinical guidelines, maternal biochemical state and gestational age. This strategy reflects

emerging evidence that even subclinical thyroid dysfunction and isolated thyroid autoimmunity may have an impact on pregnancy outcomes and thus should be carefully monitored [9].

Fetal monitoring was based on standard obstetric protocols and involved routine ultrasonographic evaluation of fetal growth and amniotic fluid volume. In women who have overt hypothyroidism or persistently elevated antibody titres, a closer fetal surveillance was carried out. Adverse pregnancy outcomes, which included miscarriage, preterm birth, hypertensive disorders and foetal growth restriction, were recorded prospectively.

Neonatal outcomes were measured immediately after delivery and comprised birth weight, Apgar scores and neonatal intensive care requirement. Data interpretation came after clinically meaningful associations rather than complex statistical modelling to make the findings of the data applicable for everyday clinical practice. All procedures were done as a part of routine medical care and in accordance with ethical standards and accepted clinical guidelines [7,8].

Results

Analysis of clinical data showed that autoimmune thyroiditis had a measurable impact on the course of pregnancy and perinatal outcomes (even in cases in which baseline levels of thyroid function appeared normal). Among observed pregnancies, the variability of thyroid status of mothers during pregnancy was related very closely to variation in obstetric and neonatal indicators. These results highlight the need to be functional and not rely on a single baseline assessment.

Table 1.

Thyroid functional status of pregnant women with autoimmune thyroiditis

Thyroid status during pregnancy	Number of cases	Percentage (%)
Euthyroid	42	57.5
Subclinical hypothyroidism	21	28.8
Overt hypothyroidism	10	13.7

Table 1 illustrates the distribution of thyroid functional states among pregnant women diagnosed with autoimmune thyroiditis. More than half of the women remained euthyroid throughout pregnancy; however, a substantial proportion developed biochemical evidence of thyroid dysfunction. Subclinical hypothyroidism represented a particularly important group, as these patients often lacked overt symptoms yet demonstrated increased vulnerability to pregnancy-related

complications. The presence of overt hypothyroidism, although less frequent, required closer clinical supervision and therapeutic intervention. These findings are consistent with previous reports emphasising that autoimmune thyroiditis may progress dynamically during gestation rather than remaining static [9]. Further analysis revealed differences in obstetric complications depending on maternal thyroid status and antibody activity.

Table 2.

Pregnancy complications in women with autoimmune thyroiditis

Pregnancy complication	Observed cases (%)
Threatened miscarriage	19.2
Preterm delivery	16.4
Hypertensive disorders	13.7
Fetal growth restriction	12.3

Table 2 summarises the frequency of major pregnancy complications observed in the study population. Threatened miscarriage and preterm delivery were among the most common adverse outcomes, particularly in women with elevated thyroid antibody titers and impaired thyroid function. Hypertensive disorders and fetal growth restriction were also noted, suggesting a broader systemic effect of

thyroid autoimmunity on placental function. Importantly, these complications were not uniformly distributed, reinforcing the concept that autoimmune thyroiditis contributes to risk in a graded and individualised manner rather than as an absolute determinant of poor outcome [10, 11]. Neonatal outcomes further reflected the influence of maternal thyroid status during pregnancy.

Table 3.

Neonatal outcomes associated with maternal autoimmune thyroiditis

Neonatal outcome parameter	Frequency (%)
Normal birth weight	68.5
Low birth weight	21.9
Apgar score <7 at 1 minute	17.8
NICU admission	15.1

Neonatal outcomes with regard to autoimmune thyroiditis of the mother are summarised in Table 3. Although most of the infants were born with satisfactory birth weight and satisfactory Apgar scores, a significant proportion needed supplementary neonatal care. Admission to neonatal intensive care units was found to be largely related to maternal hypothyroidism in late gestation and to maternal pregnancies

complicated by fetal growth restriction. These data support the previous findings of subtle, clinically important effects of maternal thyroid autoimmunity on neonatal adaptation despite adequate treatment of overt hypothyroidism [12].

Overall, the findings point toward the fact that autoimmune thyroiditis is a dynamic risk factor during pregnancy. Ongoing

evaluation of T4 and TGA levels, along with antibody activity, is critical for determining women at high risk and for the optimal management of the mother and her neonate.

Discussion

The present study confirms that autoimmune thyroiditis is an important factor of clinical interest in pregnancy, even in the absence of overt thyroid dysfunction. A major observation is that thyroid autoimmunity, independent of basal thyroid hormone levels, can affect both maternal adaptation to pregnancy and foetal development. This observation is in keeping with a growing amount of evidence that autoimmune processes have subtle but lasting effects on the function of the placenta and regulation of fetal growth [13].

A salient feature of the data is the dynamic changes in thyroid status during pregnancy. Numerous women who were considered euthyroid showed biochemical changes later in gestation, thus highlighting the insufficiency of a single early evaluation. These results would support recommendations for serial thyroid function monitoring, particularly in antibody-positive women, because higher demands on the thyroid during pregnancy may expose a low thyroid reserve [14]. Clinically, this underscores the need for longitudinal as opposed to static risk assessment.

The link between autoimmune thyroiditis and obstetric complications (preterm delivery, fetal growth restriction of the fetus) needs special consideration. Such outcomes are unlikely to be due only to the deviations of maternal thyroid hormone levels. Experimental and clinical studies suggest that thyroid autoantibodies could interfere with placental vascular development, inflammatory signalling and trophoblast invasion, worsening the effects of placental insufficiency [15]. These mechanisms provide a likely biological basis for negative outcomes even in patients with adequately treated hypothyroidism.

Neonatal outcomes further understand the downstream effect of mTBI. While most infants showed satisfactory levels of adaptation, increased incidences of low birth weight and admissions to neonatal intensive care units were observed in pregnancies complicated by hypothyroidism or persistently elevated antibody titers. These findings are consistent with recent meta-analyses linking subclinical hypothyroidism and thyroid autoimmunity with the impairment of neonatal outcome, especially if the thyroid dysfunction occurs in later stages of gestation [16].

An unending clinical dilemma relates to the management of antibody-positive euthyroid women. Although the treatment of all patients remains controversial, there is growing evidence to support a

more aggressive approach to monitoring in this group. Rather than pharmacotherapy on a large scale, individualised follow-up with timely initiation of therapy with the reach of biochemical thresholds seems the most judicious approach [17]. This strategy aims to avoid unnecessary treatment and, at the same time, ensure the safety of the fetus.

A more complex conceptualisation of autoimmune thyroiditis in pregnancy is supported by the study findings taken together. The condition should not be looked upon as just an abnormality in the laboratory, and have to be treated as a dynamic risk factor requiring integrated endocrine and obstetric management. Prospective, large-scale studies may help clarify ideal screening intervals and therapeutic thresholds, which will result in precision and personalisation of care for pregnant women with thyroid autoimmunity [18].

Conclusion

Autoimmune thyroiditis represents a clinically important disease in pregnancy, as it has effects that go beyond clinically evident thyroid dysfunction. The findings of this study suggest that thyroid autoimmunity should be considered a dynamic, changing risk factor and not just a static result on the lab test. In euthyroid women, the presence of thyroid autoantibodies can affect the course of pregnancy as well as postpartum neonatal outcome particularly as physiologic demands become greater during later gestation. These findings demonstrate the need to monitor thyroid function throughout pregnancy on an individual basis in an ongoing mode. Reliance on a single early assessment may mask the development of progressive thyroid insufficiency that progresses with gestation. Careful adjustment of management strategies based on longitudinal evaluation helps to intervene at the right time as well as reduce overtreatment. Such a balanced approach specifically applies to women with subclinical hypothyroidism or thyroid autoimmunity without thyroid dysfunction. In the clinical sphere, it is important for the obstetrician and the endocrinologist to work in coordination for the benefit of the mother and the baby. Functional assessment and not antibody status alone should be a guide in decision-making and changes in therapeutic intervention. This strategy promotes maternal adaptation and fetal development and reduces the risks intervention brings with it. Ultimately, the recognition of autoimmune thyroiditis as a condition that requires uninterrupted clinical vigilance during pregnancy allows for improved risk stratification and safer and individualised prenatal care during pregnancy. Further prospective investigations are warranted to improve monitoring protocols, elucidate therapeutic thresholds and ultimately improve maternal and neonatal health outcomes.

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