



THE IMPORTANCE OF THYROID HORMONES IN INFERTILITY

To'razoda Kumushxon Botirbek qizi

Tashkent Medical Academy, student of the treatment faculty

Gmail: kumushxonturazoda@gmail.com

<https://www.doi.org/10.5281/zenodo.7932505>

ARTICLE INFO

Received: 03rd May 2023

Accepted: 11th May 2023

Online: 12th May 2023

KEY WORDS

Thyroid hormone, infertility, tissue, hypothyroidism, metabolic rate, pregnancy

ABSTRACT

There is sometimes a link between hypothyroidism — when you have an underactive thyroid gland — and infertility in women. For women, treating hypothyroidism is an important part of any effort to correct infertility. If infertility remains after hypothyroidism has been corrected, other interventions to treat infertility may be needed. The following article is devoted to the study of the importance of thyroid hormones in infertility.

With hypothyroidism, your thyroid gland doesn't produce enough of certain important hormones. Low levels of thyroid hormone can interfere with the release of an egg from your ovary (ovulation), which impairs fertility. In addition, some of the underlying causes of hypothyroidism — such as certain autoimmune or pituitary disorders — may impair fertility.

If you have hypothyroidism and hope to become pregnant, work with your doctor to make sure your hypothyroidism is under control. Seek additional help from an infertility specialist if needed.

If you have hypothyroidism and become pregnant, tell your doctor promptly. Close monitoring of your thyroid hormone level during pregnancy can promote normal fetal development and reduce the risk of miscarriage.

The thyroid gland is a vital hormone gland: It plays a major role in the metabolism, growth and development of the human body. It helps to regulate many body functions by constantly releasing a steady amount of thyroid hormones into the bloodstream. If the body needs more energy in certain situations – for instance, if it is growing or cold, or during pregnancy – the thyroid gland produces more hormones.

This organ (medical term: glandula thyroidea) is found at the front of the neck, under the voice box. It is butterfly-shaped: The two side lobes lie against and around the windpipe (trachea), and connected at the front by a narrow strip of tissue.

The thyroid weighs between 20 and 60 grams on average. It is surrounded by two fibrous capsules. The outer capsule is connected to the voice box muscles and many important vessels and nerves. There is loose connective tissue between the inner and the outer capsule, so the thyroid can move and change its position when we swallow.



The thyroid tissue itself consists of lots of small individual lobules that are enclosed in thin layers of connective tissue. These lobules contain a great number of small vesicles (sacs) – called follicles – which store thyroid hormones in the form of little droplets.

The thyroid gland produces three hormones:

- Triiodothyronine, also known as T3
- Tetraiodothyronine, also called thyroxine or T4
- Calcitonin

Strictly speaking, only T3 and T4 are proper thyroid hormones. They are made in what are known as the follicular epithelial cells of the thyroid.

Iodine is one of the main building blocks of both hormones. Our bodies cannot produce this trace element, so we need to get enough of it in our diet. Iodine is absorbed into our bloodstream from food in our bowel. Then it is carried to the thyroid gland, where it is eventually used to make thyroid hormones.

Sometimes our bodies need more thyroid hormones, and sometimes they need less. To make the exact right amount of hormones, the thyroid gland needs the help of another gland: the pituitary gland. The pituitary gland “tells” the thyroid gland whether to release more or less hormones into the bloodstream. Also, a certain amount of thyroid hormones are attached to transport proteins in the blood. If the body needs more hormones, T3 and T4 can be released from the proteins in the blood and do their job.

The third hormone produced by the thyroid gland is called calcitonin. Calcitonin is made by C-cells. It is involved in calcium and bone metabolism.

T3 and T4 increase the basal metabolic rate. They make all of cells in the body work harder, so the cells need more energy too. This has the following effects, for example:

- Body temperature rises
- Faster pulse and stronger heartbeat
- Food is used up more quickly because energy stored in the liver and muscles is broken down
- The brain matures (in children)
- Growth is promoted (in children).
- Activation of the nervous system leads to improved concentration and faster reflexes.

References:

1. Nuralieva S. N., Islamovna Z. N., Rakhimovna K. D. Prediction of Premature Outflow of amniotic fluid in Preterm pregnancy //International Journal of Psychosocial Rehabilitation. – 2020. – T. 24. – №. 5. – C. 5675-5685.
2. Shavazi N. N., Lim V. I., Shavazi N. M. Influence of threats of the preterm birth to the intra and postnatal periods of infants //Journal of Advanced Research in Dynamical and Control Systems. – 2020. – T. 12. – №. 5. – C. 210-215.
3. Babamuradova Z. B., Shavazi N. N. Assessment of the efficacy and safety of biological agents in rheumatoid arthritis //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 26-31.
4. Shavazi N. N. The nature of changes markers of dysfunction of the endothelium in blood of women with premature bursting of amniotic waters //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 6-9.



5. Shavazi N. N., Babamuradova Z. B. Efficiency of the risk scale of extreme premature labor //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 21-25.
6. Shavazi N. N. Management of pregnant women from a high risk group with threat and premature labor. Prevention of intra-perinatal outcomes //Journal of Advanced Medical and Dental Sciences Research. – 2021. – T. 9. – №. 6. – C. 10-20.
7. Shavazi N. N. et al. Morphofunctional Structural Features of Placenta in Women with Late Preterm Birth //Annals of the Romanian Society for Cell Biology. – 2021. – C. 3820-3823.