

of endodontic treatment of periodontal teeth helps to reduce the number of relapses and reduce the duration of treatment, which gives a high economic effect. Thanks to the proposed method, it becomes possible to successfully treat teeth with chronic granulating periodontitis, and, consequently, to preserve the necessary supporting teeth for prosthetics.

Conclusions

1. it was Found that after the application of 3% sodium hypochlorite solution, the qualitative composition of the microflora does not change, but only its quantity changes (no growth of microorganisms was observed in 18.8%, in 39.4% of cases, there was a break in associative connections.) 2. ultrasound therapy methods were Developed for the treatment of chronic granulating periodontitis. The effect of 3% sodium hypochlorite activated by ultrasound on the microflora of each root canal is carried out for 30 seconds at a frequency of 25 kHz. 3. The structure of the root canal dentin was studied and described using scanning electron microscopy, before and after exposure to 3% sodium hypochlorite solution together with ultrasound. 4. under the influence of ultrasound, the dentin of the root canal wall is smoothed, a dense surface appears, which reduces the permeability of the root canal walls. 5. after exposure to ultrasound-activated 3% sodium hypochlorite on the root canal wall, in chronic granulating periodontitis, the

growth of microorganisms was not detected in 94.8% of cases.

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ASSESSMENT OF THE BLOOD LIPID SPECTRUM IN PATIENTS WITH IMPAIRED THYROID FUNCTION

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ОЦЕНКА ЛИПИДНОГО СПЕКТРА КРОВИ У ПАЦИЕНТОВ С НАРУШЕНИЕМ ФУНКЦИИ ЩИТОВИДНОЙ ЖЕЛЕЗЫ

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ABSTRACT

Objective. In the modern world, the number of patients with latent and overt hypothyroidism is constantly increasing. A connection was established between an increase in the level of thyroid-stimulating hormone (TSH) and atherogenic dyslipidemia. The aim of our study was to determine the relationship between thyroid-stimulating hormone and the lipid spectrum in patients with subclinical hypothyroidism and euthyroidism.

Methods. The study involved 59 patients (40 women and 19 men) with various forms of hypothyroidism compensation. A control group was also formed of 40 patients (24 women and 16 men, comparable in age, without thyroid disease).

Results. In the course of our work, the following results were obtained: when euthyroidism was achieved during thyroid replacement therapy, the target blood lipids were not reached in the women examined. No relationship was found between the TSH values and blood lipid parameters in women receiving Levothyroxine and having achieved drug compensation. Between a group of patients with hypothyroidism and a control group (patients without thyroid pathology), a comparative analysis of clinical and laboratory parameters was performed. Differences in the level of TSH in the main and control groups were obtained ($p < 0.05$).

РЕЗЮМЕ

Цель. В современном мире количество пациентов, больных скрытым и явным гипотиреозом постоянно увеличивается. Установлена связь между повышением уровня тиреотропного гормона (ТТГ) и атерогенной дислипидемией. Целью нашего исследования было определить связь между тиреотропным гормоном и липидным спектром у пациентов при субклиническом гипотиреозе и эутиреозе.

Методика. В исследовании приняли участие 59 пациентов (40 женщин и 19 мужчин) с различными формами компенсации гипотиреоза. Также была сформирована группа контроля из 40 пациентов (24 женщин и 16 мужчин, сопоставимых по возрасту, без патологии щитовидной железы).

Результаты. В ходе нашей работы были получены следующие результаты: при достижении эутиреоза при проведении заместительной терапии тиреоидными препаратами у обследованных женщин недостигнуты целевые значения липидов крови. Не получены связи между значениями ТТГ и показателями липидов крови у женщин, получающих препараты Левотироксин и достигших медикаментозной компенсации. Между группой пациентов с гипотиреозом и контрольной группой (пациенты без патологии ЩЖ), был проведен сравнительный анализ клинических и лабораторных параметров. Получены различия по уровню ТТГ в основной и контрольной группах ($p < 0,05$).

Заключение. Представленное исследование, проведенное на амбулаторном приеме, не выявило появления взаимосвязей тиреотропного гормона на фоне субклинического и компенсированного гипотиреоза с липидным профилем, что указывало на необходимость назначения препаратов, влияющих на метаболический синдром и снижающих холестерин низкой плотности.

Keywords. subclinical hypothyroidism, euthyroidism, lipid spectrum.

Ключевые слова: субклинический гипотиреозидизм, эутиреоидизм, липидный спектр.

Changes in the lipid profile are explained by the regulatory effect of TG on the activity of some key lipoprotein metabolism enzymes. So for example, T3 stimulates hepatic cholesterol synthesis, indicating enzyme 3-hydroxy-3 methylglutaryl-coenzyme A reductase (HMG-CoA reductase). This leads to a decrease in intracellular concentration cholesterol. In addition, thyroid hormones activate LDL cholesterol receptor hepatocytes, promoter of the LDL cholesterol receptor gene contains a reactive element (TRE), which when interacting with T3cb enhances gene expression LDL cholesterol receptor. T3cv stimulates the ester carrier protein enzyme cholesterol (Cholesterol ester transfer protein, CETP), an enzyme that transports the esterified cholesterol from HDL cholesterol to LOP and TG cholesterol, and TGs also stimulate lipoprotein lipase (LPL) of adipose tissue, which catabolizes triglyceride-containing lipoproteins and hepatic triglyceride, hydroxylated HDL2 into HDL3 [15]. TTG carries out effects on body weight, thermogenesis and lipolysis, these effects are mediated in skeletal muscle and adipose tissue. TSH regulates fatty acids (FAs), OXS and carbohydrate homeostasis by activation through the liver [1].

Absorption of cholesterol by endocytosis through LDL cholesterol receptors contributes to the hormone T3. Other proteins involved in uptake cholesterol, such as SREBP-2 and SR-B1, are also indicated by this hormone.

Lipid metabolism disorders have a number of features, as in MG, so in SG, for example, in MG, the level of OXC, LDL cholesterol increases, but there is a decrease, or vice versa, a paradoxical increase in HDL cholesterol. As you know, the absorption of iodide in the thyroid gland is an important step in TG synthesis,

with direct participation of the nitriodiodide symporter (NIS) Despite being highly dependent on TSH, the gene encoding NIS regulated by non-TTG signaling pathways. Meanwhile, research Ringseis R. performed on rats proved that the gene encoding NIS is subject to regulation of sterile regulatory binding proteins elements (SREBPs) that were originally identified as regulators lipid biosynthesis. Studies conducted on rat FRTL-5 thyroid cells, showed that TSH stimulates the expression and activity of SREBPs through the gene SREBP, which is involved in lipid synthesis. Observed almost identical effects of cAMP agonist forskolin instead of TSH. To TSH receptor deficient mice in which TSH / cAMP regulatory gene was blocked, expression of SREBP isoforms in the thyroid gland, was markedly reduced by compared to healthy mice. Over expression active SREBPs caused strong activation of the 5'-flanking region rat NIS gene, via indirect binding to SREBP. Received the results prove that TSH acts as a regulator of SREBP expression and maturation of thyroid epithelial cells [2,3].

Materials and methods

The study included 59 patients (40 women and 19 men), average age 51.2 ± 7.8 years, disease duration 8.0 ± 6.4 years. A control group was also formed of 40 patients (24 women and 16 men, comparable in age, without thyroid disease).

Assessment of the blood lipid spectrum in women who achieved drug compensation of hypothyroidism Despite the achievement of the target TSH level during hormone replacement therapy, the main group retained increased values of OXC, LDL cholesterol, TG, non-HDL cholesterol and a low content of HDL cholesterol. elevated levels of OXC, LDL cholesterol, non-HDL cholesterol (Table 1).

Table 1

**Indices of blood lipids in patients 41-60 years in patients receiving replacement therapy
with thyroid hormones (TSH to 4.00 mIU/L)**

Indicators	Group of examined	M±m	Me[Q1;Q3]
Cholesterol, mmol/L	Main	5.88±0.10	5.80[5.17;6.59]
	Control	6.11±0.12	5.99[5.27;6.87]
LDL-cholesterol, mmol/L	Main	3.84±0.10	3.90[3.19;4.52]
	Control	3.85±0.11	3.94[3.05;4.56]
HDL-cholesterol, mmol/L	Main	1.14±0.03	1.10[0.92;1.30]
	Control	1.64±0.04	1.63[1.40;1.91]
TG, mmol/L	Main	1.98±0.13	1.72[1.21;2.20]
	Control	1.39±0.07	1.20[0.97;1.55]

According to our data, in patients 41-60 years old with compensated hypothyroidism compared with the control group, higher TG indices were determined (1.98 ± 0.13 mmol/L and 1.39 ± 0.07 mmol/L, $p = 0.001$) and the average levels of HDL cholesterol were reduced (1.14 ± 0.03 mmol/L and 1.64 ± 0.04 mmol/L, $p = 0.001$).

Similar data were obtained by comparing blood lipid parameters in women receiving thyroid hormone replacement therapy and having reached a TSH level in the range of 0.4-2.5 mU / L and in the control group with similar TSH values.

Thus, we obtained data that, when euthyroidism is achieved during thyroid replacement therapy, the target blood lipids were not achieved in the women examined. No relationship was found between the TSH values and blood lipid parameters in women receiving Levothyroxine and having achieved drug compensation. Between a group of patients with hypothyroidism and a control group (patients without thyroid pathology), a comparative analysis of clinical and laboratory parameters was performed. The main and control groups were comparable in age: 51.2 ± 7.8 and 51.35 ± 0.58 years. Differences in the level of TSH in the main and control groups of 2.7 ± 0.12 and 1.37 ± 0.07 ($p = 0.008$) were obtained.

One of the objectives of our study was to compare the level of lipids in the main and control groups. The question of the correction of dyslipidemia while achieving drug compensation for hypothyroidism remains debatable. There are several studies conducted in recent years on the effectiveness of replacement therapy for hypertension. A number of authors believe that with the normalization of thyroid status with L-T4 drugs, the target values of blood lipids are achieved, other researchers have conflicting data. Among them, 8 studies were conducted as double-blind, placebo-controlled. There were no changes in the levels of cholesterol in earlier studies [4]. In two other studies, the values of total cholesterol, cholesterol-LDL and cholesterol-lowering decreased during treatment with thyroid hormones [5].

In contrast, the indicators of total cholesterol and cholesterol-LDL, but not cholesterol-HDL, improved in the other four studies [6,7,8,9]. In our work, despite the achievement of the target TSH level in the group of women with hypothyroidism during hormone replacement therapy, the main group retained higher

values of OXC, LDL cholesterol, TG compared to the recommended GFCF from 2012 [10].

According to our data, in women 45-64 years old with compensated hypothyroidism compared with the control group, higher TG indices were determined (1.98 ± 0.13 mmol / L and 1.39 ± 0.07 mmol / L, $p = 0.001$) and decreased average HDL cholesterol levels (1.14 ± 0.03 mmol / L and 1.64 ± 0.04 mmol / L, $p = 0.001$). It is important to note that even when lower TSH values (less than 2.5 mU/L) are reached, similar data were obtained. The literature contains data from several studies that could not demonstrate a significant effect of L-T4 on the lipid profile in patients with hypertension [11,12]. A number of authors conclude that the beneficial effects of L-T4 on the lipid profile in patients with hypertension are mainly levels of OH and LDL [1]. The content of TG and HDL during replacement therapy does not change significantly [13]. Morgunova TB, Fadeev VV, in their study evaluated the lipid profile before the appointment of L-T4 drugs in women with primary hypothyroidism and after 3 months taking the drug. Patients (60 people) were divided into 2 groups of 30 people, depending on the initial level of TSH. The first group included women with low normal TSH levels within (0.4–2.0 mU / l), the second group with high normal TSH (2.1–4.0 mU/L). At the start of the study revealed that the group of women with high normally TTG have significantly higher levels of total cholesterol ($p = 0.002$), LDL cholesterol ($p = 0.02$), triglycerides ($P = 0.03$). After dose reduction the received L-T4 in this group with a transition in its high normally interval TSH values was observed a significant increase in atherogenic fractions HCLNP ($p = 0.02$). In the group with highly normal TSH after increasing the dose of L-T4, no significant dynamics of the lipid spectrum was detected [14].

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ХИРУРГИЧЕСКОЕ ЛЕЧЕНИЕ УЗЛОВОГО ЭУТИРЕОИДНОГО ЗОБА.

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SURGICAL TREATMENT OF NODULAR EUTHYROID GOITER

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АННОТАЦИЯ

Определение объема резекции щитовидной железы при узловом эутиреоидном зобе имеют важное прогностическое значение для качества жизни оперируемого. В результате специфики функционирования щитовидной железы в целом и в отдельно взятом случае, профилактики осложнений во время операций и в послеоперационном периоде, к определению объема операции следует подходить индивидуально.

ANNOTATION

Assessment of the volume of thyroid resection in case of nodular euthyroid goiter has an important prognostic value for the quality of life of the patient. Considering special functions of the thyroid gland, the prevention of complications during operations and in the postoperative period, the determination of the volume of operation should be approached individually.

Ключевые слова. Узловой зоб, резекция щитовидной железы, тиреоидэктомия, экстрафасциальная резекция щитовидной железы, тиреодология.

Keywords. Nodular goiter, thyroid resection, thyroidectomy, extrafascial thyroid resection, thyroidology.

До настоящего времени в отношении объема оперативных вмешательств при многоузловом зобе существуют разногласия. Приверженцы резекции одной или обеих долей щитовидной железы, в зависимости от локализации узловых изменений, обосновывают свою тактику, в основном, опасением повреждения возвратных нервов и

околощитовидных желез и стремлением сохранить неизменную функционирующую паренхиму органа. В тоже время ряд авторов настаивает на экстрафасциальных вмешательствах, направленных на полное удаление доли или всей щитовидной железы, обеспечивая тем самым радикальность операции.