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СРАВНЕНИЕ СОВРЕМЕННЫХ ПОДХОДОВ К ЛЕЧЕНИЮ БОЛЕЗНИ ГРЕЙВСА

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COMPARISON OF MODERN APPROACHES TO THE TREATMENT OF GRAVES' DISEASE

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Резюме. Болезнь Грейвса (БГ) – аутоиммунное заболевание, развивающееся вследствие выработки стимулирующих антител к рецепторам тиреотропного гормона (АТ-рТТГ), клинически проявляющееся синдромом тиреотоксикоза, ассоциированного с экстратиреоидной патологией. В настоящее время существуют три основных метода лечения БГ: антитиреоидные препараты (АТП), радиойодтерапия (РИТ) и тиреоидэктомия. Многочисленные исследования показали, что длительная поддерживающая терапия низкими дозами тиреостатических препаратов не наносит долгосрочного вреда и даже может иметь некоторые преимущества.

Ключевые слова: болезнь Грейвса, пролонгированная терапия, тиреостатические препараты, тиреоидэктомия.

Resume. Graves' disease (GD) is an autoimmune disorder resulting from the production of stimulating antibodies to thyroid-stimulating hormone receptors (TSH-Ab), clinically manifesting as a syndrome of thyrotoxicosis associated with extrathyroidal pathology. Currently, there are three main treatments for GD: antithyroid drugs (ATDs), radioiodine therapy (RIT), and thyroidectomy. Numerous studies have shown that long-term maintenance therapy with low doses of antithyroid drugs does not cause long-term harm and may even have some benefits.

Keywords: Graves' disease, prolonged therapy, antithyroid drugs, thyroidectomy.

Relevance. Graves' Disease (GD) is an autoimmune disease that primarily affects the thyroid gland. The production of Thyrotropin Receptor antibodies (TRab) stimulates the thyroid gland into overproduction, leading to GD being the most common cause of hyperthyroidism worldwide. GD shows significantly higher predominance in women than men. Presentation of GD varies by patient, but weight loss and heat intolerance as well as other classic signs of hyperthyroidism are common. Extrathyroidal manifestations of GD include ophthalmopathy, which is distinctive to GD among thyroid pathologies. Nowadays, the three main pathways of treatment for GD are Anti-Thyroid Drugs (ATDs), Radioiodine Therapy (RIT) and thyroidectomy. According to the American Thyroid Association, ATDs therapy is the preferred first line, with an initial course of 12-18 months followed by reevaluation[1].

Aim: to compare the effectiveness and safety of treatment of patients with GD by evaluating hormone levels (TSH, free T4) and TRab levels and assessment of side effects.

Objectives:

1. Assess effectiveness of each treatment method by yearly testing of hormone and TRab levels.

2. Review self-reported symptoms as well as clinical signs and complete blood count results for potential side effects of each treatment method.

Materials and methods. A retrospective study was conducted of patients attending the outpatient clinic "Minsk City Clinical Endocrinological Center" between the years 2017-2022 with a confirmed diagnosis of GD.

Our study includes 79 patients with a confirmed diagnosis of GD, all patients underwent an initial course of antithyroid medication with variable duration, after initial ATDs, patients were split into 3 subgroups:

- Group A, remission group, that had 30 patients.
- Group B, radical therapy group, that had 14 patients which was further subdivided into patients that underwent thyroidectomy and patients that underwent RIT.
- Finally, group C, maintenance group, with 35 patients.

The patients' median age was 46 (35.5-63.7) years old. 57% of our patients were middle aged or older (defined as age 45+); 76% (n=60) of our patients were female and 24% (n=19) were male.

Results and their discussion. Patients in group A where predominantly female with an average age of 48 years, these patients achieved remission-defined as normal TSH or T4 after one year of stopping pharmacological medication and without and clinical symptoms of graves- after an average of 3,9 years (median 3.5 years), without any reported side effect. A recent study showed 43% of their patients achieving remission 33 months since initiation of treatment, with the last 15 months being on low dose therapy [4].

Patients in group B were without any gender predominance. The average age of patients that picked to go the radical treatment route was significantly younger at 34 years, with the females in this group being younger still, on average 31 years old, while the males were on average 34 years old. These patients started on a higher initial dose of ATDs (20mg vs 15 mg for other groups).

On average these patients received their radical treatment 4,5 years after their initial diagnosis. 64% of group B had thyroidectomy (2/3rd), 55% of thyroidectomy patients were male, 45% female, the average age of the patients was 32 years old. 2 out 9 patients developed post-operative hypoparathyroidism; none of the patients suffered recurrent laryngeal nerve injury. 36% of the radical therapy patients were patients who underwent radioiodine therapy, 60% of them were female, with an average age of 39 years, one patient relapsed after RIT and went back to antithyroid therapy. No significant side effects in any patients were reported.

Patients in group C, still on maintenance therapy, were mostly female at 83%. The average age was 50 years old. After 2 years of pharmacological treatment, 41% of the patients' TSH levels had improved to reach normal ranges, with no significant fluctuation after 4 years. None of the patients experienced any side effects from the treatment. A recent study found that 70% of their patients remained in an euthyroid state for 53 months on average [4].

Thyroid eye disease (TED) was observed in 24% (n=19) of patients on admission, 68% (n=13) of which being women and 32% (n=6) being men. Patients with TED on average had a TRab level twice as high as the patients who didn't (14.71 IU/l vs. 6.83 IU/l). A 2020 study found a 40% prevalence rate of TED globally [5].

Conclusions:

1. The patients who selected for radical treatment had a higher median initial dose and were significantly younger than the rest of the sample.

2. A significant risk of post-operative hypoparathyroidism was found in the data sample.

3. Patients that presented with Graves' ophthalmopathy had significantly higher levels of TRabs than the ones that did not, although both were elevated.

4. Patients in all groups continued drug therapy for much longer than the traditional 18 months period, and none of them experienced any side effects, even the ones that continued taking it long term.

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