

Comments on the current treatment of people with grave's hyperthyroidism

Opinión

Graves' hyperthyroidism (GH) is the most common cause of hyperthyroidism in iodine-sufficient areas. The cause of GH is an unregulated stimulation of the thyroid-stimulating-hormone (TSH) receptor by autoreactive TSH-receptor antibodies (TRAbs). Patients with uncontrolled hyperthyroidism had an increased risk of mortality and substantial cardiovascular morbidity, including arrhythmias, stroke and heart failure.¹

I want to clarify that as a clinician I am going to talk about some aspects of the treatment of patients with Graves hyperthyroidism, but not about the treatment of Graves' disease, which is something different. The treatment of these people is not satisfactory, because the target of the different treatments does not affect the etiopathogenic bases of the disease, and the consequence is that a high percentage of patients have to cause a disease (hypothyroidism) to treat the first (hyperthyroidism).

Thionamide derived drugs (ATD), radioiodine (RAI) and total thyroidectomy (TT) are the main treatment options. All of them proven to be effective, but they also have important drawbacks, so it is a challenge for both doctors and patients to choose one of these treatment modalities, for this reason the main guidelines for management of GH patients recommend an active discussion between the patients and doctors regarding the benefits, risks and logistics of the different treatment modalities,^{2,3} always taken into consideration the patient's preference.

Currently, antithyroid drugs Methimazole (MMI) or Propylthiouracil (PTU) are the first treatment option for these patients worldwide,⁴ mainly because compared to the other treatment options it preserves the thyroid gland, since is well-known that one of the characteristics of autoimmune diseases, is to have spontaneously periods of increase and others of remission of the disease. Other reason for the pharmacological treatment is of first choice is the fact that in the last 3 decades it is observed that the phenotype of patients with GH is milder than in the past⁵ and it is well known that patients with mild/moderate forms of GH respond very well to treatment with ATD. However, the main reason for treat with ATD should be patient preference.

MMI is the first choice among antithyroid drugs, except in patients during the first trimester of pregnancy. Initial doses of 20-30mg/day and maintenance doses of 5-10mg usually enough in most cases. The minimum duration must be at least 12 to 18months; it is advisable to continue the treatment until the antibody values against the TSH receptors (TRAbs) have become negative.

The frequency of side effects of ATDs is around 5%, mainly urticariform lesions, itching and less frequently liver lesions, mainly when propyl thiouracil is used; in general the side effects are dose dependent.⁶ The main problem with antithyroid treatment is the high rate of recurrence of the disease after discontinuation of treatment, which leads to 50%. For this reason it has been tried to find some

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clinical, biochemical or genetic markers that determined before starting treatment could predict that patients would have long-term disease remissions, after the suppression of the medication.⁷⁻⁹ Mild hyperthyroidism, absence of orbitopathy, minor thyroid volume, no smoking habit or same genetic markers are associate with high remission rate. Unfortunately these parameters have little value when we are in front of a specific patient.

The main indications for dealing with RAI are: patient preference, toxic effects to ATD, and patients with other comorbidities such as cardiovascular, respiratory, liver diseases, etc. The main limitation of RAI treatment are the presence of orbitopathy and that results in athyreotic hypothyroidism that is no ease to management. Recent studies found that RAI for hyperthyroidism is associated with increased solid cancer mortality,¹⁰ and that patients treated with RAI compared to ATD and Thyroidectomy have worse quality of life at 6-10years after of RAI treatment.¹¹

Finally, total thyroidectomy (TT) is indicated for patients with big or/and compressive goitre and GH associated with malignant nodules. The main problems of TT are: high dependence of surgeon qualification, athyreotic hypothyroidism and high initial cost.

Conclusion

In conclusion, unless the patients have the opposite opinion, the first option to treat Graves hyperthyroidism is with antithyroid drugs, which can be equally useful when the disease relapse.¹²

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Conflicts of interest

The authors declare that there is no conflict of interest.

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