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ADEQUACY OF THYROXIN REPLACEMENT THERAPY IN PATIENTS WITH SPONTANEOUS AND IATROGENIC HYPOTHYROIDISM

Abstract: The aim of this investigation is to assess the efficacy of the thyroxin replacement therapy in patients with spontaneous or iatrogenic hypothyroidism. We have tested TSH by ultra sensitive immunofluorometric assay in 174 patients: 71 with autoimmune atrophic hypothyroidism, 54 with hypothyroidism due to Hashimoto's thyroiditis, 27 patients with Graves' disease or euthyroid nodular goitre secondary hypothyroid after radioiodine treatment and 22 patients with Graves' disease, hypothyroid after surgery. The evaluation is performed only in patients with normal TSH level at control (2-6 months ago) - previously regulated thyroid status. The results were: about 50% of the samples had satisfactory findings (TSH between 0,05 and 5,0 mU/l), 24% had suppressed TSH, and about 26% have TSH above 5 mU/l (20% above 10 mU/l). These results are in agreement with some other reports, that adequacy of thyroxin replacement therapy is sometimes not acceptable.

INTRODUCTION

It is generally accepted that management and therapy of hypothyroidism is undemanding (1,2,3). This is the foundation of the principle that the outcome of the hyperthyroidism therapy (surgery, radioiodine) should either be euthyroidism or hypothyroidism (4,5,6).

The aim of this investigation is to assess the efficacy of the thyroxin replacement therapy in patients with spontaneous or iatrogenic hypothyroidism.

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METHODS

Patients: 71 patients with autoimmune atrophic hypothyroidism, 54 with hypothyroidism due to Hashimoto's thyroiditis, 27 patients with Graves' disease hypothyroid after radioiodine treatment and 22 patients (with Graves' disease –16 patients, nodular euthyroid goiter 6 patients), hypothyroid after surgery (bilateral subtotal thyroidectomy (Graves) or thyroid lobectomy (nodular goiter). Radioiodine treatment was performed by the "small doses" protocol (\cong 7.000 Rads on thyroid).

Methods: usTSH (DELFLIA, Wallac) in a follow-up study, compared with clinical status and quantity of thyroxin. Normal values 0,5 to 5,0 mU/l

Protocol: The assessment is performed for the patients with normal clinical and laboratory findings at the most recent control (maximum 2-6 months ago) – patients with previously regulated thyroid status by titration of thyroxin doses.

The quality of substitution therapy was estimated by clinical status and TSH levels in one calendar year – (control in regular intervals of three months). All available data is categorized in groups: good substitution, hyperthyroid intervals, hypothyroid intervals, or mixed type of findings. Patients with unsatisfactory findings are tested by a questionnaire concerning the regularity of substitution therapy.

RESULTS

Table 1. QUALIFICATION OF CONTROL OF HYPOTHYROIDISM

Hypothy.	Good control	Hyperthyroid intervals	Hypothy intervals	Poor control Mixed type	Total
C a u s e	N %	N %	N %	N %	N
Atrophic	26 36,6	13 18,3	20 28	12 16,9	71
Hashimoto's	22 40,7	6 11,1	18 33	8 15	54
Surgery	20 74	2 7,4	3 11	2 7,4	27
Radioiodine	9 40	4 18	6 27	4 18	22
T o t a l	75 44	25 14,3	47 27	26 15	174

Table 2. ESTIMATION OF SEVERITY OF HYPOTHYROIDISM BEFORE SUPSTITUSION (TSH LEVELS)

Hypothyroidosis	TSH before substitution	Total
C a u s e	Mean st. dev.	N
Atrophic	108 51,2	71
Hashimoto's	32 8,1	54
Surgery	20 7,4	27
Radioiodine	29 12,4	22
T o t a l		174

Table 3. Regime of substitution in group with INADEQUATE findings

REGIM OF THERAPY	REGULAR	IRREGULAR	TOTAL
Number	21	76	97

DISCUSSION

"Hypothyroidism is a state which is often very simple to correct", is the opinion of many authors (1, 2, 3). Conversely, treatment of immunogenic hyperthyroidism (Graves' disease) is quite demanding. Medicament treatment is often protracted and successful in only about 50 percents (4,5). More radical therapy (surgery, radioactive iodine) may have some considerable consequences. The most significant is certainly consecutive hypothyroidism (6, 7). In the last decades, this effect has been associated with treatment with radioiodine (6,7,8), and recently for surgery also (5,9,10). Total thyroidectomy is recommended instead of conventional bilateral subtotal thyroidectomy (9,10). The principal reason for this risk is: **"Hypothyroidism is a state which is often very simple to correct"**

Is this statement quite accurate?

The period of this follow-up was. In our follow-up study (duration of about one year) of 174 hypothyroid patients, only 44% had satisfactory clinical and laboratory findings. The main reason of this unsatisfactory result was discontinuation of replacement treatment due to irregular thyroxin supply. In the same follow -up period, some 100 patients have missed scheduled control check-up.

What is quality of control in them?

Had the goal of estimation of quality of replacement therapy in patients with hypothyroidism (primary or iatrogenous).

Instead THE CONCLUSION there is one answer and one question:

– The answer:

Hypothyroidism is not easy to control. Similar is opinion of many authors (9,11,12).

– The new question:

– Is it justified to be too much radical in the treatment of hyperthyroidism (large therapeutic doses of radioactive iodine or near total thyroidectomy) (5,13)?

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