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DIAGNOSIS OF THYROTOXICOSIS IN PATIENTS AGED OVER SIXTY

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Fifty patients aged over 60 years (average age of 64,04 years) were studied. The thyrotoxicosis was proved in a clinical, laboratory, and in some cases histologic way. As a result of our investigation we established that the thyrotoxicosis in the elderly patients posed considerable diagnostic difficulties because of the atypical and olygosymptomatic clinical picture. The disease could be manifested by one symptom only which was tachycardia in most cases. One common symptom in our patients was atrial fibrillation. The presence of ischemic heart disease did not exclude thyrotoxicosis. Most often a depressive but not irritative syndrome was observed. The skin was soft and gentle but often cold and dry. The structure of the thyroid gland was established with ultrasonography and sometimes radioiodine scanning. The TRH-test was of a significant diagnostic value and good acceptability in elderly patients which allowed to ignore the usage of Werner's test.

Key-words: Thyrotoxicosis, diagnosis, elderly patients

The ageing of the population becomes a socially important problem. The thyrotoxicosis in patients aged over sixty has certain characteristic features and often is a serious diagnostic problem. At this age it is difficult to be recognized despite the presence of complications especially from the cardiovascular system.

We aimed to study the course of thyrotoxicosis in patients aged over sixty in order to find out diagnostic criteria for an early diagnosis.

MATERIAL AND METHODS

We studied fifty patients aged over sixty (mean age of 64,04 years). There were 14 men and 36 women treated in the Clinic of Endocrinology, Medical University of Varna. The diagnosis was based on the clinical course, the measurement of T_3 and T_4, ultrasound of the thyroid gland, scanning and J^{131}-captation, Werner's test and TRH-test.

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RESULTS AND DISCUSSION

We diagnosed Grave's disease in 29 among 50 patients with thyrotoxicosis. Five of them had the form of Marry-Lenar, 4 had toxic nodular goiter, 5 had hashitoxicosis, and 8 had thyroid adenoma. It is well known that the presence of only one disease in elderly individuals is more probably an exception than a rule. A combination of several diseases was present in our patients. Only 4 of them had no accompanying diseases. Two of them had six, three of them - five and six of them - four accompanying diseases. The most common were the coronary heart disease, hypertension, diabetes mellitus, chronic pyelonephritis and chronic gastritis. The various pathology often became a reason for a continuous diagnostic searching, late and sometimes wrong treatment. The difficulties in diagnosis could be explained with the long period from the appearance till the identification of the disease (on average - 34,38 months).

The tachycardia was a main and an early symptom in the patients with Grave's disease (including the form of Marry-Lenar) and toxic nodular goiter. All the 38 patients had this symptom. We found out that a heart frequency over 90/min caused a feeling of tachycardia in the old patients while the young ones did not feel tachycardia when heart rate was over 110/min. Twenty-three patients complained of tachycardia and "overjumping" of the heart. Eleven patients were treated for a heart disease for a long time (from 2 months to six years). A diagnosis of coronary heart disease was accepted in 16 patients but heart defect - in two of them. In 3 patients the reason for the heart pathology was unclear until the diagnosis of Grave's disease. Ten patients had heart failure without any effect of cardiotonic therapy in usual doses. The resistance to these drugs in thyrotoxicosis is well known. In one patient the significant increase of the dose of digitalis did not give the expected effect, so this fact prompted the cardiologist to search for thyrotoxicosis. In this case we had Grave's disease and the correct treatment improved the heart decompensation.

Analyzing the EGG of 38 patients with Grave's disease and toxic nodular goiter we found absolute arrhythmia in 31,6 % (12 patients) while 6 patients with Grave's disease had extrasystolia (2 of them - supraventricular and 4 - ventricular). In one case the ventricular extrasystolia was in combination with absolute arrhythmia. Two patients had no other symptoms of thyrotoxicosis. According to Levina, the absolute arrhythmia was present in 10 % of the cases with diffuse toxic

goiter (2). Baranow supposed that it was observed in elderly patients with myocardiosclerosis. There are data about the leading role of T_3 in pathogenesis of absolute arrhythmia (3,5). Our observation on 25 patients with T_3 thyrotoxicosis showed that the absolute arrhythmia was extremely rare (only in one patient).

The second symptom in frequency was the lost of weight (in 33 patients). Twenty-eight patients lost from 5 to 10 kg for a period of 4-5 months. A malignancy was suspected in three of them in case of weight loss from 25 to 30 kg for 3-4 months. We did not observe significant changes in the appetite of the elderly patients: it was increased in six of them, decreased in 12, and unchanged in the others. Sometimes the appearance of the patients made a wrong impression (7). In some of them the apathetic, calm and "frozen" face reminded myxoedema instead of Grave's disease. However, on the calm and anaemic face, young and shining eyes could be noticed. Six patients had a severe depression with bad thoughts, fear, pessimism, and tearfulness. The old patients were rarely agitated, explosive and annoyed in contrast to the young patients. We observed the typical soft and velvet skin in 35 patients but in 12 of them it was cold. Twenty-nine patients had sweating. In two men with active thyrotoxicosis the skin was dry. One of them related the desquamation of skin on the front surface of the legs to the exacerbation of the hyperthyroidism, which was proved by the increased levels of T_3 and T_4. At the same time, there were no clinical features of pretibial myxoedema. The development of thyroid myopathia in 16 patients with Grave's disease and one patient with hashitoxicosis was proved by EMG in seven cases and severe clinical symptoms in the others. We observed tremor in 38 old patients with different forms of thyrotoxicosis, but we did not think it had great diagnostic importance because the tremor due to other reasons was common in old people.

We found infiltrative ophthalmopathy in 8 patients with Grave's disease, three with hashitoxicosis and one with thyroid adenoma. Two patients with Grave's disease had pretibial myxoedema. The autoimmune genesis of these complications correlated with the well-known fact that ageing was accompanied with high frequency of autoimmune diseases (6).

The thyroid adenoma is oligosymptomatic in young age. From 8 patients with thyroid adenoma two had paroxysmal absolute arrhythmia without any other hyperthyroid manifestations, one patient had tachycardia, weight loss and infiltrative ophthalmopathy. A woman had a clinical picture of

hyperthyroidism in a premenopausal state. The other patients had an anamnesis for tachycardia.

Recently, the cases of autoimmune Hashimoto thyroiditis have increased. At the same time, many patients came into the hospital with clinical features of hyperthyroidism, a state which was often unrecognized. In 5 of 50 patients with senile type of thyrotoxicosis, the clinical course, the goiter, the fine-needle aspiration proved the diagnosis of Hashimoto thyroiditis - hyperthyroid phase.

In the diagnosis of thyrotoxicosis in old people, the characteristic features of the course had an important role. One of them was the frequent relapse. Out of 50 patients, 26 had relapses: 16 with Grave's disease, all the patients (5) with hashitoxicosis and one with thyroid adenoma postoperatively. During relapses the clinical features were vague, often with one symptom only. The experience of the patients was very important in these cases. They gave similar complaints as in the beginning of the disease. We judged the diagnostic value of the total T_3 and T_4 in 30 patients. One of them had a T_3 form of thyrotoxicosis. The other ones had increased levels of T_3 and T_4. We never found any correlation between the level of hormones and the severity of the disease. Because of the atypical and oligo-symptomatic course of the disease the measurement of T_3 and T_4 level in all patients had a greater importance.

In most patients (5) with thyroid adenoma and hyperthyroidism, however, the levels of T_3 and T_4 were normal. In such cases we accepted the diagnosis of thyroid ademoma according to the clinical examination: palpation of the thyroid gland, scanning, ultrasound and fine-needle aspiration biopsy. The measurement of the cholesterol in elderly patients did not possess any diagnostic importance. In 16 out of 30 examinations it was normal. In two patients it was even increased. A ultrasound of thyroid gland was performed in 32 patients. In 9 patients using palpation we found a nodule in the enlarged thyroid gland which was confirmed by the ultrasound in 5 of them. In one case we found a cyst; and a lobbed region in the other ones. In nine patients the scanning with J^{131} showed a diffuse distribution of radionuclide.

Because of the significant difficulties in the diagnosis of thyrotoxicosis in elderly subjects, in patients with T_3 and T_4 levels within normal limits or with an atypical J^{131} uptake, additional tests were necessary. We performed the Werner's test and TRH-test in elderly patients with thyrotoxicosis always under control of beta-adrenergic

antagonist. Nevertheless we observed a significant increase of the blood pressure in one patient and tachycardia and agitation in the others. The Werner's test could give us the needed information for diagnosis under correct conditions. TRH-test was performed in 8 patients with diagnostic purpose and in order to prove the remission of the disease in two patients. They all underwent the test without complications. Only one woman had a feeling of heat for a short time.

The results allowed us to determine the activity of Grave's disease in all patients. We had an experience with a woman treated with cordaron for an arrhythmia. We began a treatment with metisol nearly 20 days before the TRH-test. The treatment obscured the J^{131} uptake and the results of T_3 and T_4 measurements. Only the TRH-test made the diagnosis possible.

CONCLUSIONS

Thyrotoxicosis in the elderly patients creates significant diagnostic problems because of the presence of accompanying diseases which make the symptoms of the disease vague as well as due to the atypical and oligo-symptomatic clinical course.

In many cases thyrotoxicosis in elderly patients has an atypical course: mono- or oligo-symptomatic, especially with symptoms of cardiovascular system (absolute tachyarrhythmia), depression, and sweat, but cold skin.

The Werner's test has to be replaced by TRH-test because of its greater diagnostic value.

The ultrasound is a method of choice for determining the nodular character of the goiter.

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Диагностика на тиреотоксикозата у пациенти на възраст над 60 години

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Резюме: Проучени са 50 болни на възраст над 60 години (средна възраст 64,04 г.) с клинично, лабораторно, а при някои случаи и хистологично доказана тиреотоксикоза. Авторите установяват, че тиреотоксикозата у възрастни създава значителни диагностични трудности поради атипичната и олигосимптомна клинична картина. Заболяването може да се прояви само с един симптом, най-често тахикардия. Нерядка проява при този контингент е абсолютната аритмия при предсърдно мъждене. Наличието на ИБС не изключва съчетанието й с тиреотоксикоза. По-често е наблюдаван депресивен, а не - възбуден синдром. Кожата на болните е мека и нежна, но често студена и неизпотена. Структурата на щитовидната жлеза е уточнена с ултразвукова диагностична апаратура, а понякога - със сцинтиграфия с J^{131}. ТРХ-тестът притежава голяма диагностична стойност и добра поносимост у възрастните болни, което позволява отказ от теста на Вернер.