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THE PHENOMENON OF ASSOCIATED GRAVES' AND PLUMMER'S DISEASE – A CASE REPORT

Introduction: Graves' disease is the autoimmune hyperthyroidism. In addition to clinical signs and symptoms of the disease, it's manifested in high diffuse accumulation of radio tracer on thyroid scintigraphy and presence of TSH-receptor autoantibodies (TRAb).

Autonomous hyperthyroidism (Plummer's disease) is, on the other hand, manifested in findings of hyperfunctional nodules (multinodular goiter) and a complete suppression of paranodal tissue on thyroid scintigraphy. As the whole group of nonimmune hyperthyroidisms, this entity is also TRAb negative.

There is, however, a possibility for occurrence of associated both types of hyperthyroidism in the same patient. This disease will show clinical manifestation of hyperthyroidism with raised thyroid hormones and suppressed TSH. And yet, thyroid scintigraphy shows non - suppressed (stimulated by TRAb) thyroid tissue with 'hot' thyroid nodules.

We have presented a case of the patient with associated both types of hyperthyroidism.

CASE REPORT: Patient K.S., age 63, had been earlier under our care for multinodular euthyroid goiter. She had all the clinical, laboratory and immunology signs of this disease, but also some 'hot' and 'warm' nodules on radionuclide scintigraphy (figure 1).

On this occasion, she was referred to our Polyclinic for tumor marker HE-4 testing for suspected ovarian cancer. Although this patient is

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interesting from various aspects, we will limit the presentation of our findings only to the thyroid side.

The patient had enlarged thyroid gland with several palpable nodules. She had all clinical signs of moderate – severe hyperthyroidism. TSH was measured by an ultrasensitive method (TSH ultra, Walac), as well as concentration of free thyroxin (FT4 Farmacia). As thyroid scintigraphy showed three ‘hot’ nodules with non-suppressed paranodal tissue (figure 2), we have also measured TRAb (BRAHMs). All these indicators are shown on the table No 1.

Discussion

We have presented a patient with associated autoimmune (Graves’) and autonomous (Plummer’) hyperthyroidism. The simultaneous occurrence of these two diseases is relatively rare; more often it begins as one of these two diseases followed after a period of time by the other – successive occurrence. Our patient was also diagnosed many years ago with euthyroid goiter. In our previous papers, we presented 17 cases, observed during the course of long-term monitoring (1,2,3). It was noted that only five out of 17 patients met the diagnostic criteria for both diseases. In the rest of cases, we needed new ‘diagnostic criteria’ to confirm the diagnosis.

Other authors have reported manifestation of isolated ‘diagnostic criteria’ i.e. appearance of functional nodules in patients with Graves’ disease (Marine-Lenhart syndrome) (4), a case report of adenoma toxicum after radioiodine therapy of hyperthyreosis, occurrence of immunogenic thyroid diseases after the treatment of Plummer’ disease with radio-iodine (6), appearance of thyrostimulating antibodies and Graves’ disease following the treatment of toxic nodular goiter with radioiodine (7), etc. Our patient has not had any prior treatment. The current disease occurred spontaneously – thyrostimulating antibodies were detected in the patient with already established multinodular euthyroid goiter.

In conclusion: the diagnosis of associated Graves’ and Plummer’ disease was based on thyroid scintigraphy findings of ‘hot’ nodules with clearly non-suppressed paranodal tissue. Clinical diagnosis of hyperthyroidism was supported by significantly suppressed TSH and high concentration of ‘free’ thyroxin, while high titer of detected TRAb was in favor of autoimmune aetiology.

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