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Painless Thyroiditis and Transient Thyrotoxicosis After Graves' Disease

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PAINLESS thyroiditis associated with transient thyrotoxicosis is a well-recognized entity and may account for 15% of all cases of thyrotoxicosis.[1,2] It is important to distinguish this condition from Graves' disease, because treatment of the two disorders is different. Because the uptake of iodine is depressed in transient thyrotoxicosis associated with thyroiditis, therapy with antithyroid medication or iodine 131 is ineffective, and since the disease is self-limited, surgery is inappropriate.[3] Therefore, a radioactive iodine uptake study in newly discovered thyrotoxic patients is indicated as a means of distinguishing these two different conditions.[4,5]

Graves' disease is characterized by remissions and exacerbations. However, in a patient experiencing an apparent recurrence, the radioactive iodine uptake determination should be repeated, even if the serum thyroxine (T_4) or triiodothyroxine (T_3) level is elevated, as our case illustrates.

Report of a Case

The condition of a 28-year-old patient was first diagnosed as Graves' disease in 1976 on the basis of an enlarged, nontender thyroid gland, symptoms and signs of thyrotoxicosis (but without ophthalmopathy), and elevated free T_4 index. Furthermore, her ^{131}I uptake was 50% in two hours and 67% at 24 hours, and her antithyroglobulin antibody determination was positive at a dilution of 1:1,600.

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She was treated with propylthiouracil for more than a year but went into a remission both by clinical and laboratory evaluation when she became pregnant and she did not require any therapy. However, after delivery her symptoms of thyrotoxicosis resumed, and the diagnosis of thyrotoxicosis was confirmed by a T_4 level of 18.0 μg/dL (normal, 4.5 to 12 μg/dL) and a T_3 level of 430 ng/dL (normal, 64 to 215 ng/dL). However, ^{123}I uptake was only 8% and 5%, respectively, values that are in the low range. She was treated with propranolol hydrochloride. This therapy was stopped three months later, when her T_4 level dropped to 11.3 μg/dL, and she became asymptomatic without further therapy.

Comment

The symptoms of Graves' disease often improve during pregnancy and recur after delivery.[6,7] Transient thyrotoxicosis has been described in subacute thyroiditis[8] and in chronic lymphocytic thyroiditis.[4] After pregnancy, transient thyrotoxicosis related to Graves' disease[9] and chronic lymphocytic thyroiditis[10] have been described. These changes seem to be induced by physiological and immunologic changes occurring during pregnancy and after delivery.[11]

Amino et al[9] assumed that four cases of transient thyrotoxicosis after delivery were caused by recurrence of Graves' disease, and radioactive iodine uptake studies were not repeated. However, our case of transient thyrotoxicosis with painless thyroiditis occurring after delivery in a patient with previous Graves' hyperthyroidism indicates that their assumption was not necessarily correct.

A possible relationship between Graves' disease and chronic lymphocytic thyroiditis has been previously suggested.[4] Thyrotoxicosis may present in association with either condition, possibly depending on the immune state, and pregnancy may alter immune factors in such a way as to influence the thyroid gland's pathological condition associated with this case report. Thus, it is important that the radioactive iodine uptake determination be repeated in a recurrence of thyrotoxicosis after spontaneous remission of Graves' disease, especially after childbirth. Otherwise, inappropriate and ineffective therapy may be prescribed.

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