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Conjugal Graves' Disease

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Graves' disease is an autoimmune disorder characterized by thyrotoxicosis, diffuse goiter, and antibodies directed against the thyrotropin (TSH) receptor, thyroglobulin (Tg), and thyroid peroxidase (TPO). The TSH receptor antibody is believed to stimulate the generation of C^{AMP} in the thyroid, resulting in increased synthesis and release of the thyroid hormones.

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The abnormal function of the immune system found in patients with this disease is strongly linked to a genetic predisposition. The incidence of thyroid disease among monozygotic twins is approximately 50%. This lack of complete concordance suggests that environmental factors, including infectious agents such as *Yersinia enterocolitica*(1) and a retrovirus(2), may be involved in triggering disease expression. The presence of autoimmune thyroid disease in non-consanguineous household members also raises this possibility. The clinical and laboratory features of a family in which the non-consanguineous parents developed Graves' disease are reported. All their children had thyroid disease.

Case Reports

Case 1: A 31-year-old married woman presented with symptoms of hyperthyroidism in early 1989. The family included a father,

mother (Case No. 1) two daughters and one son. There was no consanguinity. On physical examination she had a small diffuse goiter with mild ophthalmopathy. Her serum T4 concentration was 27 μ /dl. The 24 hour thyroid radioactive iodine uptake was elevated to 73% with diffuse uptake observed during a thyroid scan. The patient was treated with propylthiouracil for 2 years. She then received 8 milli Ci of 131 I. The patient became hypothyroid and is being treated with l-thyroxine.

Case 2: A 37-year-male, husband of Case 1, presented with symptoms of hyperthyroidism in late 1989. Physical examination showed signs of thyrotoxicosis, and diffuse goiter, without ophthalmopathy. Serum T4 concentration was 13.3 μ g/dl, 24 hour thyroid radioactive iodine uptake 68% and was diffuse on thyroid scan. The patient received 5 milli Ci of 131 I. Hypothyroidism, which appeared 1 year later, is being treated with l-thyroxine.

Case 3: The eldest daughter of Cases 1 and 2 presented with symptoms of hyperthyroidism at 12 years of age, one year after her parents were diagnosed with Graves' disease. Her physical examination showed a diffuse goiter, mild ophthalmopathy, and clinical features of thyrotoxicosis. Her serum T4 concentration was 8.5 μ g/dl, but her serum T3 was markedly elevated to 465 ng/dl. The patient's serum anti-microsomal antibody titer was positive at 1:12800. Her 24 hour thyroid 131 I uptake was elevated to 36% and a diagnosis of Graves' disease was made. The patient became hypothyroid 2 years after propylthiouracil treatment and had TSH of 25 mIU/ml. She is being treated with l-thyroxine.

Case 4: The second daughter of Cases 1 and 2 were screened at the age of 10 years for

thyroid disease because of the family history of Graves' disease. A physical examination showed her thyroid to be slightly enlarged with no nodules, and she was clinically euthyroid. The results of thyroid function tests were normal. Titers for antimicrosomal and anti-Tg antibodies were weakly positive (1:25) and a diagnosis of a nontoxic goiter was made.

Case 5: The only son of Cases 1 and 2 was the first to present with features of thyroid disease which eventually led to detailed examination of the whole family. A physical examination showed that his thyroid was enlarged and firm. Serum T4 and T3 concentrations were normal and his serum anti-M antibody titer was positive (1:6400). Hashimoto's thyroiditis was diagnosed. Two years later, he became hypothyroid with an elevated serum TSH of 11.1 mIU/ml and is on replacement l-thyroxine since that time.

Discussion

There is paucity of medical literature on conjugal hyperthyroidism. A report from New Zealand described six couples in which both husband and wife presented with thyrotoxicosis(3). In only two couples, however, was the clinical presentation of hyperthyroidism consistent with Graves' disease.

It is possible that the phenotype for Graves' disease is expressed only in the presence of a critical combination of genetic and environmental factors, such as infectious agents including retrovirus or *Yersinia enterocolitica*. Environmental organic pollutants produced from coal have been implicated in the increased prevalence of goiter and thyroid antibodies, but no link to an increased prevalence of Graves' disease has been established(4). Increased iodine intake among persons in iodine deficient

areas is associated with an increased incidence of thyrotoxicosis, including Graves' disease(5).

The incidence of Graves' disease among children where parents have the disease is not known. In this family, two offsprings had autoimmune thyroid disease, one had Graves' disease and one had Hashimoto's thyroiditis an unusual cooccurrence. However, no data exists on the true prevalence of these diseases among married couples, and medical officers should be encouraged to report such occurrences to shed further light on the relation between genetic and environmental factors in the etiology of this disorder.

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Imaging in Adrenal Tuberculosis

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Tuberculosis (TB) of adrenal gland is a rare form of adrenalitis accounting for only less than 5% of cases. The chief clinical features include that of adrenal insufficiency like weakness, weight loss, hyperpigmentation, hypotension and gastrointestinal disorders.

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Enlarged adrenal gland and hypodense necrotic areas with ring enhancement are diagnostic feature on computed tomography study. We are reporting a similar case.

Case Report

A 14-year-old boy presented with multiple sinuses and fistulae in the axilla. On examination he showed signs of malnutrition with sparse hair, depigmentation of face and angular stomatitis. Few large firm matted and mobile lymph nodes were palpable in the neck and fistulae were seen in axilla. The liver was enlarged 3 cm and spleen 2 cm below the costal margin. Chest roentgenogram showed right apical fibrocavitary lesion. The total leukocyte count was 22,000 cells/mm³ with 55% lymphocytes and an ESR of 110 mm at 1 h (Westergren method). The sputum examination was positive for acid fast bacilli. Mantoux test using 1 TU PPD showed an induration of 16 mm at 48 h.