Hyperthyroidism and Steatorrhea in an Adolescent

Report of a Case

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HYPERFUNCTION of the thyroid is frequently associated with diarrhea. It is infrequently associated with steatorrhea.² ³ When steatorrhea occurs with hyperthyroidism, it is usually mild.³ The present case is reported because hyperthyroidism was associated with severe steatorrhea which cleared completely after medical therapy with thyroid-suppressive medications.

CASE REPORT

The patient was a 16-year-old girl who was first seen on Jan. 7, 1964, with a chief complaint of diarrhea for 18 months. She had been delivered normally and weighed 4 lb., 10 oz. at birth. In infancy she was noted to have a small head, to exhibit decreased general activity, and to have difficulty in sucking. She sat alone at 1 year of age, walked at 2 years, spoke short sentences and was bladder- and bowel-trained at 3-4 years of age. Her I.Q. at age 3-4 years was 40. She entered a special school for retarded children at age 8 years and has remained there to date.

The patient had been physically well until March 1962, when it was noted that her right eye had become more prominent. In April 1962, an ophthalmologist found the right eye to be 2 mm. more prominent than the left. The prominence of the eye was measured frequently and showed no progression over a 4-week period. X-rays of the skull, orbit, and optic foramen were normal. The neurological examination revealed spasticity of the legs with ataxia, hyperactive reflexes, and bilateral ankle clonus. A true or pseudo-tumor of the right orbit was suspected. The patient was re-examined neurologically 11 months later and no change in the neurological examination or prominence of the right eye was found. The left eye became gradually more prominent from March 1963 to January 1964.

Diarrhea began in the fall of 1963. It consisted of 4-20 loose, large, foul-smelling movements in 24 hr. There was frequent fecal incontinence. Her appetite was good but the patient lost 15 lb. of weight in 18 months. The mother noted weakness, easy tiring, itching, marked sweating, and restlessness. Although menstruation had begun at age 14 years, she had not menstruated for 6 months prior to study.

She was 5 ft. 2¾ in. tall and weighed 74 lb. She was mentally retarded and markedly restless. The blood pressure was 110/20, pulse rate 120, and respirations 20. There was a moderate thoracic kyphosis. Both eyes were prominent with the right slightly more than

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Dr. John Helwig reviewed the patient's cardiac status.
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the left (Fig. 1). The pupils were equal and the left pupil reacted to light. It was impossible to test visual acuity because of inability of the patient to cooperate, but it had been noted that the patient sat within 1-2 ft. of the television screen. The thyroid was palpable and auscultation of the thyroid demonstrated a bruit. The heart was enlarged to percussion

and there was a Grade II/IV systolic basal murmur without a thrill. The murmur was not transmitted laterally. Examinations of the chest and of the abdomen were normal. A neurological examination demonstrated a wide-based gait, bilateral foot drop and evasion, poor coordination with choreiform movements of limbs and face, decreased muscle tone and power throughout all extremities, bilaterally hyperactive reflexes in the lower extremities with ankle clonus, and bilateral positive Babinski responses. The reflexes in the upper extremities were normal. There was no apparent sensory loss. There was complete absence of a competent anal sphincter. A simian line was present. Early breast development and pubic hair were present.

Laboratory studies performed prior to admission to the hospital gave the following results: hemoglobin concentration, 11.9 gm.; white blood cell count, 5900 with 37% neutrophils and 63% lymphocytes; protein-bound iodine, 10.6 µg.%; serum albumin, 3.3 gm.%; serum globulin, 3.6 gm.%. The globulins were not fractionated. The xylose absorption test yielded 5.3 gm. of xylose in the 5-hr. urine collection. A 24-hr. quantitative stool fat was 23.0 gm. Serum carotene value was 2.4 µg.%. Serum calcium, phosphate, cholesterol, and Vitamin B₁₂ were normal. A chest X-ray verified the enlarged heart finding and suggested the diagnosis of a shunt. A skull X-ray demonstrated a brachiocephalic skull with a normal sella turcica. A survey film of the abdomen and a barium study of the small bowel were normal.

A gluten-free diet was begun on Jan. 31, 1964. The patient was admitted to the hospital on Mar. 3, 1964, for further study. A 24-hr. quantitative stool fat was 49.3 gm. The 2-hr. I uptake was 40%; 25 hr., 55%; and 48 hr., 42%. The protein-bound I was 3% (normal, less than 0.27%). A complete blood count, urinalysis, electrophoretic protein pattern, and 24-hr. urine determination for 5 hydroxyindole-acetic acid and vanilmandelic acid were normal. There was no evidence of acanthocytosis. An electrocardiogram confirmed the tachycardia commensurate with the diagnosis of hyperthyroidism. Dosage with propylthiouracil, 100 mg. 3 times daily, was begun on Mar. 7, 1964. The gluten-free diet was continued.

Interval Note. The patient was seen on Mar. 24, 1964. She weighed 80 lb. and had a pulse rate of 84. The mother reported that the patient was more alert, had less itching, and was less restless. The bowel movements varied from 6 to 20 per 24 hr. and were, at times, large.

Fig. 1. Appearance of patient in 1962 (left), prior to beginning of exophthalmus, and in 1963 (right), at approximate time of first admission.