

A Case Report of Chorea Associated with Hyperthyroidism

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Sir,

Chorea or choreoathetosis is a hyperkinetic syndrome characterized by brief, abrupt involuntary movements resulting from a continuous flow of random muscle contractions [1]. These movements are described in patients with Addison's disease, vasculitis, pregnancy, viral exanthemas, drugs and other diseases. Enhanced physiological tremors are the most common movement disorder seen in hyperthyroidism, occurring in up to 97% of patients. Chorea is only rarely associated with hyperthyroidism (less than 2% of patients with mostly in patient's suffering from Grave's Disease). Here we present a case of chorea in a young female who presented with uncontrolled hyperthyroidism.

A 25-year-old female with past medical history of hypertension, hyperthyroidism, anxiety, bipolar disorder, depression, substance abuse presented with muscle spasm of the left shoulder and arm.

Patient's vitals were stable. On examination, she was found to have tenderness in the left shoulder around the joint line. Episodic rhythmic jerks mostly involving the left shoulder and choreiform movements of the left arm were noticed. Her head was deviated to the left and occasional dystonic movements were also seen. Painless thyromegaly was also noted. Lab results were remarkable for only TSH of 0.01 IU/ml and a free T4 of 6.2 ng /dl. She was started on metoprolol 25 mg and methimazole 30 mg. A Neck CT with contrast confirmed multi-nodular goiter. She was discharged home on metoprolol and methimazole. Her follow up visit one week later showed improvement in involuntary movements. Lab results revealed a decreased free T4 of 2.3 ng /dl.

Literature was reviewed to find out the mechanism of action and treatment for the condition.

Hyperthyroidism may induce a reversible functional alteration in the dopamine turnover or receptor site response to dopamine in the corpus striatum. Studies have shown a reduction in the production and turnover of the level of homo-vanillic acid, a metabolite of dopamine, in the cerebrospinal fluid in hyperthyroid patients. This is in concordance with alleviation of symptoms after administering dopamine antagonist [2]. Another hypothesis suggests functional modification of adrenergic receptors, supported by the fact that the chorea disappears when treated with a beta blocker and worsens with isoproterenol challenge [3]. Multiple reports have reiterated the connection between increased serum thyroxine and movement disorders, including chorea associated with thyroxine replacement therapy [4].

Physicians must be aware about such an association so that these movement disorders are not over looked as a non-specific finding. Early detection and treatment can improve the patient's quality of life.

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