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Rare Neurological Manifestation of Thyroid Disorders – An Interesting Case Series

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Background & Aims

Disorders of thyroid gland are among the most common endocrine disorder. The neurologic disorders associated with thyroid dysfunction span the entire spectrum of neurology. Symptoms range from disorders of emotion and higher cognitive function to movement disorders, neuromuscular diseases and a range of rarer yet significant neurologic sequalae. Myopathy is the most common of the peripheral neurologic manifestations in both hypothyroidism and hyperthyroidism. Compressive mononeuro-pathies, namely carpal tunnel syndrome, are a major feature in hypothyroidism. At the level of the central nervous system, psychosis, personality change, mood disorder, confusion, dementia, coma, and seizures can occur in either hypothyroidism or hyperthyroidism. Movement disorders occur in hyperthyroidism, whereas ataxia and headaches are associated with hypothyroidism.

Material & Methods

We present 5 cases here are rare neurological manifestation of thyroid disorders.

Case Reports

1) Ischemic Stroke as a presentation of Thyroid Storm.
   35 years old female presented with weakness of left upper limb and left lower limb. Thyroid hormone levels were high. CT brain showed multiple infarct in Right MCA territory. Other workup for young stroke turned out to be negative.
2) Hypokalemic Paralysis as a presentation of Thyroid Storm.
   37 years postnatal patient presented with difficulty in walking. Thyroid hormone level was high with low TSH.
3) Chorea as a presentation of Graves disease.
   42 years female complaints of involuntary movement in her left upper extremity and face for 1 month who is a known case of hyperthyroidism on anti thyroid drugs.
4) Proximal Myopathy as a presentation of Hypothyroidism
   58 years male who is a known case of hypothyroidism presented with proximal

weakness which improved after starting thyroid supplementation

5) Proximal Myopathy as a presentation of Hyperthyroidism

22 years female presented with proximal myopathy and elevated CPK levels which on evaluation turned out to be Hyperthyroidism and patient improved well following treatment.

Discussion

	FEATURES
Cognitive dysfunction	**Inattention, anxiety ,rarely coma**
Seizure	**GTCS**
Tremor	**High frequency, low amplitude**
Chorea	**Unifocal/ multifocal**
Stroke	**Cardio-embolic associated with thyrotoxic induced atrial fibrillaton**
Myopathy	**Proximal muscle weakness with normal serum CK**
Polyneuropathy	**Axonal neuropathy / rarely demyelinating**
Myasthenia gravis	**Ocular > generalised**
Periodic paralysis	**Associated with hypokalemia**
Graves ophthalmopathy	**Proptosis, restricted eye movements**

Cerebral venous thrombosis in hyperthyroidism, mechanism of CVT in hyperthyroidism may be related to an induced hypercoagulable state, possibly from increased factor VIII clotting activity. Elevated plasma fibrinogen, decreased protein c activity, And factors IX XI may have contributed to a thrombotic state, venous stasis due to compressive effects of thyroid goiter on cervical chains

Conclusion

High index of suspicion is needed when neurological symptoms are presenting features. In such cases, proactively doing thyroid function tests and antibody testing is necessary as treatment may lead to complete recovery.

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