

Neuroendocrinology and Pituitary CASE REPORTS IN SECRETORY PITUITARY PATHOLOGIES, THEIR TREATMENTS AND OUTCOMES

A Case of Late Recurrent Cushing's Disease Presenting with Proximal Myopathy

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SAT-250

Patients with Cushing's disease (CD) present with a variety of symptoms and comorbidities including central obesity, hypertension, hyperglycemia, fatigue, weakness, insomnia and mood changes. Proximal myopathy is one of the classical signs of hypercortisolism and patients typically report difficulty rising from a seated position or climbing stairs. Due to variability in clinical presentation, with some patients showing subtle or few symptoms, the diagnosis of CD can be delayed. We describe a patient with late recurrent CD whose primary symptom was proximal myopathy. A 63 yr. old man presented to our clinic with complaints of progressive muscle weakness and fatigue. He had been successfully treated for CD at age 35 with transsphenoidal pituitary adenomectomy. He had been on hormonal replacement therapy for panhypopituitarism since surgery including levothyroxine, testosterone and glucocorticoids. He noted progressive weakness for several years prior to presentation in our clinic. Earlier evaluations revealed vitamin B12 and vitamin D deficiency, but supplementation did not lead to significant symptom improvement. He suffered two episodes of unprovoked deep venous thrombosis with pulmonary embolism and developed a left biceps tear that required hospital admission. During admission, his muscle weakness was exacerbated by immobility and he was subsequently referred to endocrinology for consideration of steroid induced myopathy. He had been on physiologic glucocorticoid replacement since diagnosed with panhypopituitarism. At the time of our evaluation, he was able to ambulate with a walker, but was unable to climb stairs, drive a car and required assistance with activities of daily living. His only other symptoms were fatigue and insomnia. Laboratory testing after holding prednisone revealed: morning cortisol 31.7 mcg/dl (reference interval [RI], 4.0-22.0), ACTH 128 pg/mL (RI 6 - 50), FSH <0.7 mIU/mL (RI 1.6 - 8.0), LH <0.2 mIU/mL (RI 1.6 - 15.2), testosterone 85 ng/dL (RI 250 - 827), IGF-1 55 ng/mL (RI 41 - 279), prolactin 4.9 ng/mL (RI 2.0 - 18.0), TSH 0.01 mIU/L (RI 0.40 - 4.50), free T4 1.5 ng/dL (RI 0.8 - 1.8), HbA1c 6.8% (RI <5.7%). Prednisone was discontinued and hypercortisolism was confirmed by 1 mg overnight dexamethasone (dex) suppression test (Cortisol 32.4 mcg/dL, dex 517 ng/dL, RI 180-550 ng/dL) and elevated 24 h urine free cortisol 315.4 mcg/24h (RI 4.0 - 50.0). 8 mg DST showed mild cortisol suppression (Cortisol 21.2 mcg/dL, dex >1000 ng/dl). MRI confirmed recurrent tumor (1.2 x 0.8 x 1.3 cm) extending into the right cavernous sinus and the patient underwent repeat transsphenoidal tumor resection. Pathology confirmed ACTH adenoma. Our case report highlights that patients with CD can have late recurrences and require

long term monitoring for return of hypercortisolism, even in cases of prior panhypopituitarism.

Thyroid

HPT-AXIS AND THYROID HORMONE ACTION

Thyroid Ultrasound Reports and Thyroid Function Tests in Florida Firefighters: Data from the Firefighter Cancer Initiative.

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SAT-439

Thyroid ultrasound reports and thyroid function tests in Florida Firefighters: Data from the Firefighter Cancer Initiative.

Background: Several epidemiological studies suggest firefighters are at risk for numerous site-specific malignancies, including thyroid cancer. However, it is not well known if chronic exposure to carcinogenic compounds or radio frequency radiation, increases the rate of thyroid nodules and/or affect the thyroid function in this high-risk occupational group. To gain a better understanding, we examine the rate of thyroid nodules and assess the presence of thyroid dysfunction in a sample of Florida firefighters. **Methods:** A cross sectional study design was conducted to evaluate 103 firefighters, with not known thyroid disease, who were assessed by a physician-performed, real time ultrasound protocol followed by a blood collection to evaluate TSH, Free T4, T4, T3, TPO and Tg antibodies. Additional data such as gender, age and race were also collected and analyzed. **Results:** Among the 103 firefighters who completed the study protocol, the sample mean age was 39.4±7.6 years (range 26 to 60) 88.4% male, 87.6% Caucasian and 65% Hispanic. 8.7% of men and 33% of women were found to have thyroid nodules. Of the 20 participants with thyroid nodules only three nodules were above 1 cm, and only one was classified as high risk and met criteria for fine needle aspiration. 8.7 % of men and 33% of women were found to have +TPO antibodies. 18.6% of men and 25% of women were found to have isolated low T3. **Conclusion:** The prevalence of thyroid nodules, and of Hashimoto thyroiditis, among Florida firefighters, is comparable with the rate found in the general population based on previous epidemiological data. Surprisingly, we found that a significant number of subjects have isolated low T3. In this study, the level of Free T3 was not assessed, however since T4 was normal, we can conclude that the low T3 was not related to a low level of TBG. Low T3 is usually found in systemic illness and has been postulated as a prognostic factor in cardiovascular disease, chronic fatigue syndrome, survival after stroke, and Alzheimer's disease. The clinical significance and the prevalence of Low T3 in a healthy population has not been well described. Further research is needed to fully understand the significance of this finding.