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Case Report Open Access

A Case Report of Panhypopituitarism with Atypical Manifestation

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Abstract

Background: The panhypopituitarism is a rare endocrine system disease; the clinical presentation of a panhypopituitarism patient can vary from asymptomatic or subclinical cases to life-threatening myxedema coma.

Case report: Our patient is a 55 years old woman who was presented to emergency department with chief complains of weakness. After necessary workup, panhypopituitarism was diagnosed.

Discussion: There are different diagnoses for weakness. In patients with vague complaints such as weakness, we should take their history carefully and perform clinical examinations to reach a definitive diagnosis.

Keywords: Panhypopituitarism; Weakness; Endocrine system disease

Introduction

Weakness is one of the most common complaints among the patients who were admitted to the emergency department. Sometimes the reason is identified but most of the time it remains unclear for clinicians [1]. Weakness could be related to the nervous system (central and peripheral), metabolic disorders, electrolyte, endocrinopathy, cardiovascular disorders, paraneoplastic disease, vitamin deficiencies, toxins, infectious disease, and trauma [2]. Due to various causes of weakness, it is helpful to limit the differential diagnosis thorough examination [1,2].

Case Report

The patient was a 55 years old woman who complained of chronic fatigue and weakness since 3 weeks ago. About 6 months ago, she suffered from dizziness and fatigue. She was visited by doctor but due to normal lab finding (CBC, BUN, Cr, Na, K and LFT); she was treated with antidepressant agents.

In the emergency department, the patient had normal vital signs. Mild pre-orbital edema was observed in the general appearance. The patient was pale and his hair was thin and fragile. In the examination of her chest coarse crackles were heard at both lung bases. The systolic murmur with severity 2/6 was heard in LSB (left sternal border). At the lower extremities non-pitting edema was evident in both legs. DTR (Deep Tendon Reflex) was dropped. Other examination findings were within normal limits. Primary lab test results were as follows in Table 1.

Based on these results, the patient was considered as central hypothyroidism. So, pituitary function tests were requested. Their results are shown in Table 2.

Element	Result	Normal range
WBC	5.4*10^3/mm^3	(4-10)* 10^3/mm^3
Hb	11.8 gr/dl	12-16 gr/dl
Hct	34.5%	36-46%
FBS	95 mg/dl	70-115 mg/dl
Urea	23 mg/dl	15-40 mg/dl
Cr	1.2 mg/dl	0.7-1.4 mg/dl
Free T4	0.1 ng/dl	9-23 ng/dl
TSH	1.6 pmol/lit	0.35-5.3 pmol/lit
ALT	72 IU/lit	0-31 IU/lit
AST	107 IU/lit	0-37 IU/lit
Alk.P	127 IU/lit	64-306 IU/lit

Table 1: Primary lab tests results.

Based on these results, Panhypopituitarism was diagnosed. The brain MRI with and without gadolinium was requested to exclude structural causes but the result was normal. Finally, we prescribed her prednisolone 5 mg and levothyroxine 0.1 mg daily. In subsequent follow-up the patient's symptoms resolved and his life status had improved.

Discussion

In this case, we report a patient who was presented to the emergency department with complaints of weakness, eventually panhypopituitarism was diagnosed. A Low level of FSH and LH serum in menopause of the 55 year- old female is due to pituitary insufficiency. On the other hand, *low free T4 and TSH serum levels are suggested to secondary thyroid insufficiency in this patient. *the level of serum cortisol of the patient is done at 8 am, since the serum level is lower than 3 µg/dl, ACTH stimulation test is not needed. On the other hand, there is no evidence in the physical examination of patient for primary adrenal insufficiency (such as skin and mucosal pigmentation) and secondary adrenal insufficiency arises and at this situation we did not usually checked the ACTH hormone levels. MRI was done to patient to evaluate the reasons of pituitary insufficiency that needs

Element	Result	Normal range
FSH	3.92 ng/dl	20-100 ng/dl
LH	0.67 ng/dl	7.5-42 ng/dl
PRL	26.6 ng/dl	1.5-18.5 ng/dl
Cortisol 8 am	2.90 µgr/dl	4.5-24 µgr/dl

Table 2: Secondary lab tests results.

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surgical interventions. Unfortunately we could not find the cause of panhypopituitarism in this patient.

Panhypopituitarism is a rare disease with a high mortality. It is characterized by complete or partial deficiency of hormones secreted by the pituitary gland [3,4]. Its Prevalence is 45 per 100,000 populations, and its incidence is 4 per 100,000 populations [5]. There is a Variety of causes for Panhypopituitarism, such as cranial surgery, radiotherapy and tumors, hereditary causes, infiltrative disease, infectious diseases and head trauma. Due to the underlying pathology, clinical symptoms are related to severity and speed of onset [3]. This condition may be created in high-energy head trauma. Any symptoms associated with hormonal disorders after head trauma requires the studies of pituitary function [6,7].

The clinical presentation of the panhypopituitarism patient can vary from asymptomatic or subclinical cases to life-threatening myxedema coma. Patient's symptoms are different, related to which hormone is involved (including hypothyroidism, hypoadrenalism, hypogonadism, growth hormone disorder and hypoprolactinemia) [3,4]. Some patients may be referred with hyponatremia due to adrenal glands dysfunction, in spite of the necessary studies for the evaluation of patients with hyponatremia, checking the serum cortisol level is needed to rule out hypoadrenalism [8,9]. Signs and symptoms of the disease may persist for several years without diagnosis [5]. Suspicion of this disease, clinical examination and biochemical tests may be helpful in early diagnosis of the disease [3,4]. In these patients, due to the impairment of cortisol and thyroid hormones, QT prolongation and heart rhythm disorders may be existed [10,11].

Treatment of panhypopituitarism includes therapies of underlying cause with hormone replacement. The main goal of Hormone Replacement Therapy (HRT) is to achieve to normal levels of circulating hormones to restore the body's natural physiology and relief of symptoms with minimal side effects. Mineralocorticoid replacement is not necessary in most cases because the renin-angiotensin system and potassium are the key regulators for aldosterone secretion [3].

Considering the extent of clinical signs of panhypopituitarism, in confronting with vague complaints with resistant to treatments, we must keep in mind hormonal disorders such as panhypopituitarism.

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