

Depression led pitting edema: A rarest case presentation

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ABSTRACT

Pitting edema is the clinical manifestation generally presented due to long standing, especially during summer in the sun, heavy weight bearing, vasodilatation, or cardio-hepatorenal disease or in rare hypothyroidism, but in atypical case may demonstrates depression with progressive stress, that also shows indication of mild pitting edema. We present a case of a non-alcoholic 42 years divorced male under anti-anxiety medication for 10 years who complained of weight gain almost 10 kg in 30 days duration, less attentive to his work, and always feel sleepiness during day (once get to sleep, slept more than 5 h during day) and also late up to morning if not called to wake-up, also with diminished memory, more specific event was before 60 days of these symptoms he unexpectedly suffered family tragedy suggesting depression led progressive stress pitting edema that got managed after appropriate counseling along with changes in his life style.

Keywords: Stress, depression, pitting oedema

Introduction

Stress leads to depression which provokes anxiety that has systemic effect on the body system, psychological stress with peripheral physiological responses is associated and impacts the health of an individual letting significant alteration in behavior changes such as somnolence, restlessness, constipation, bulimia (insatiable overeating results into weight gain) all these changes are alike hypothyroid symptoms also life-threatening acute stress resulted into acute pulmonary edema immediately after psychological stress, emotional, or mental trauma such as tragedy of child or spouse.^{1,2} Stress signaling centrally triggers complex neural network circuit one of them is hypothalamic-pituitary-adrenal axis that breakthrough to activation of sympathetic nervous system and neuroinflammatory modulation which can trigger release of histamine through mast cell idealizing the reasoning of edema in stress exacerbated condition.^{3,4} Probably this and other physiologically mediated neuroendocrinology imbalance are responsible for stress-related symptoms.

Case Report

A non-alcoholic divorcee male of age 42 years visiting OPD complains of constipation (straining for half an hour during defecation) along with about 10 kg weight gain in the past 30 days with forgetfulness, diminished memory, somnolence, and decreased appetite in addition more specific and clinically attentive symptoms is pitting edema in ankle spreading toward lower part of knee. Further, this patient had history of taking the anti-anxiety medicine alprazolam 1 mg (PAAZ) for 10 years and nearly 60 days before his

pitting edema symptoms, he had family tragedy as his son and all his daughter left home leaving him alone remarkably increasing his level of stress. Physical examination exhibited no hepato or splenomegaly, no palpitation, normal blood pressure (BP) - (110/70 mmHg), though the patient history did not give any sign of heart disease, i.e., no hypertension (BP > 140/90) and no history of medication of heart problem, on taking remark to pitting edema, patient undertook following laboratory test.

Although above tabulated report showed high 24 h urine creatinine clearance along with all other tested values were within normal range thus ruling out the liver disease as well as kidney disease, then the patient was suggested for thyroid test (Table 1).

Thyroid function test

A rare presentation of hypothyroidism association was considered for which thyroid test was recommended.

Since the entire Table 2 mentioned value documented within normal range. Hence, no medicine was prescribed instead the patient was counseled to remain relaxed and even was suggested to not take any stress as a part of management, after 3 month of this counseling, his symptoms slowly went away and finally disappeared. Pitting edema in clinical scenario is generally believed to be cardio-hepatorenal origin if not rarely in hypothyroidism, but rarest presentation may be present in severe stress due to increased capillary permeability decreased (vasoconstriction tone and increased serotonin vasodilator (vasodilator) release (Figure 1).

Table 1: Laboratory investigation report

| Test | Obtained results | Reference range |
|----------------------|------------------|-------------------|
| Serum total protein | 6.70 | 6.0-8.5 g/dl |
| Serum albumin | 4.10 | 3.7-5.3 g/dl |
| Creatinine clearance | 183.00 | 80-120 ml/min |
| 24 h urine creatine | 2638.0 mg/24 h | 1400-1600 mg/24 h |
| Blood urea nitrogen | 14.0 mg/dl | 5-20 mg/dl |
| Serum creatinine | 1.0 mg/dl | 0.4-1.2 mg/dl |

Table 2: Laboratory investigation report of thyroid function test

| Test | Obtained results | Reference range |
|---------------------|------------------|-----------------|
| Free T ₃ | 2.3 pg/ml | 1.3-4.15 pg/ml |
| Free T ₄ | 1.3 ng/dl | 0.8-2.0 ng/ml |
| TSH | 2.2 uIU/ml | 0.3-4.5 uIU/ml |

TSH: Thyroid-stimulating hormone, T₃: Tri-iodothyronine, T₄: Tetra iodothyronine

**Figure 1:** Photograph showing pitting edema in the patient

Discussion

Some studies have shown that emotional stress can cause a bit of a swollen liver, pulmonary edema, and it is possible that they may contribute to mild swelling in joints or other areas of the body. Stress increase histamine that enhance increase capillary permeability thus contributing to edema; however, dominance effect seen in leg possibly due to effect of gravity pooling,

weight gain is also individually, and differently vulnerable to stressful life events, the inability to control food intake, and engage in consistent physical exercise accounts for episodes of weight gain. In addition, chronic psychological stress or seasonal perturbations in mood results into excessive intake of carbohydrate-rich food such as rice; hence, hiking weight the reason might possibly be due to impairment of brain serotonergic activity that appears to involve in disturbances of mood and appetite.⁵ Moreover, Chronic stress or anxiety suppresses the gastro colic reflex which in turn stops from passing stool thus possibility of straining during defecation in long run urinary creatinine clearance is significantly high with muscle mass, and it is more significant in the individual with lean body mass.⁶ We derived conclusion of this case report of being mere psychological led disturbances in physiological mechanism due to normal finding of all the laboratory and other reports and was not prescribed any medication but counseled and helped to escape from family stress by suggesting him to go in new places and forget the event happened which was considered to play role in worsening of stress; hence, evoked depression and on application of this index, all the symptoms disappeared gradually in 3 months of time. Therefore, it seems clear that this is the rarest presentation of progressively exacerbated stress led depression oriented pitting edema.

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