CASE REPORT

Adrenal insufficiency in primary adrenal lymphoma: Innocuous presentation of a rare sinister illness

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Abstract

Adrenal insufficiency can often manifest with nonspecific complaints. Primary adrenal lymphoma is a rare cause of adrenal insufficiency. We present the case of a 55-year-old female who presented with nonspecific complaints of abdominal pain, pallor and weight loss and was found to have primary adrenal lymphoma. The case highlights the need to expeditiously initiate steroid replacement in patients with adrenal insufficiency, while efforts are made to establish the etiology of adrenal insufficiency.

Key words: Adrenal insufficiency, malignancy, primary adrenal lymphoma

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Introduction

Even seemingly innocuous symptoms may herald a sinister diagnosis. Adrenal insufficiency presents in a nonspecific manner and a high index of suspicion is needed. Primary adrenal lymphoma is a rare cause of adrenal insufficiency. Although our patient could not be saved it is apparent that aetiology of adrenal insufficiency should be determined expeditiously so that appropriate therapy can be instituted.

Case Report

A 55-year-old housewife, was presented with 2-month history of dull pain in upper abdomen. The pain was intermittent and non colicky, unrelated to posture or meals. The patient also had a decrease in appetite and had lost significant weight over past 1 month. Past history was unremarkable except for a cholecystectomy 13 years back. She denied any history of fever, night sweats, chronic diarrhoea, vomiting, respiratory or urinary complaints, breast atrophy, coarsening of facial hair, etc. Her examination, except for presence of pallor, was unremarkable. Her blood pressure was 102/68 mmHg in right arm and pulse of 68/min. She had no evidence of skin hyperpigmentation. Her routine investigations revealed Hb-8.8 gm%, TLC- 9200 with DLC-74% polymorphs, 23% lymphocytes and 3% eosinophils. Peripheral smear was normocytic and normochromic. Her ESR was 60 mm at end of 1 hour, blood urea-18 mg%, serum creatinine-0.8 mg%, random blood sugar of 64 mg%, serum Na^+- 130, K^+-5.5 meq/L, Ca^{2+}- 9.2 mg%, normal liver functions with serum albumin of 3.2 gm%, normal PT, normal urine examination and EKG. A repeat electrolyes revealed a low serum Na of 124 meq/L and a high serum K of 5.4 meq/L, further confirming the abnormality. Serum cortisol was low (<1 μg/dL). Cortisol response to 250 μg of cosyntropin was abnormal (Serum cortisol at 60 minutes-1.8 μg/dL). An ultrasonography of abdomen was done which revealed bilateral masses in adrenal area.

The contrast enhanced CT of abdomen was done which revealed solid necrotic lesions in bilateral adrenal areas with no organomegaly or lymphadenopathy. USG-guided FNAC of the right adrenal gland was done [Figure 1]. Large atypical cells with high N/C ratio, prominent nucleoli and deep basophilic cytoplasm with cytoplasmic vacuoles were seen. There were a large number of lymphoglandular bodies. A diagnosis of a malignant tumor: possibly poorly differentiated carcinoma versus Non-Hodgkin's Lymphoma was suggested and biopsy was advised. Biopsy [Figure 2a]

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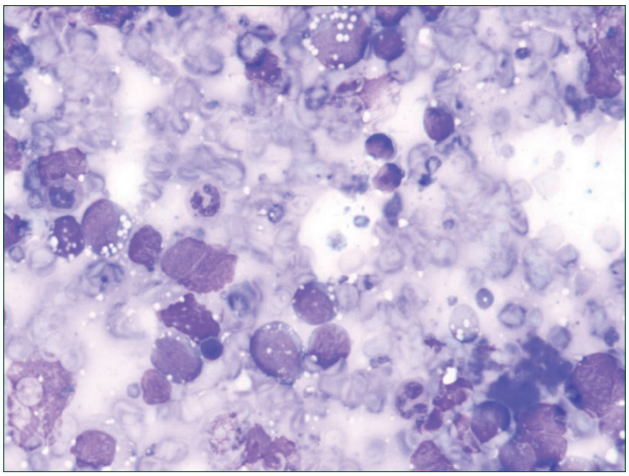

Figure 1: FNAC showing atypical cells and a number of lymphoglandular bodies. (MGG, ×400)

revealed lymphoma cells infiltrating the adrenal glands. Lymphoma cells showing high mitotic activity and LCA positivity in all the tumor cells were seen [Figure 2b]. A diagnosis of Non-Hodgkin's Lymphoma, Diffuse large cell type was confirmed. In our patient the adrenal replacement was initiated prior to biopsy and the patient was discharged on replacement therapy (Hydrocortisone 15 mg/day). She, however, presented to emergency after missing drugs for 2 days in a state of shock and inspite of initiation of fluids, intravenous hydrocortisone and antibiotics, the patient died.

Discussion

The complaints of the lady, presenting with apparently benign dull abdominal pain and an essentially normal examination except for pallor, can be easily passed off as non-specific. Her history, however, revealed some weight loss which can result from a multitude of causes, including sinister ones. Weight loss can be due to chronic infections, malignancy, endocrine disorders like hyperthyroidism, malabsorption syndrome, depression, medication-induced complications, etc. The lady was also noted to be pale and was found to have a normocytic, normochromic anemia. The normocytic normochromic anemia can result from damage to bone marrow by aplasia or infilteration, anemia of chronic disease, anemia of chronic kidney disease and early iron deficiency.[1] The investigations suggested a low random sugar and slightly deranged serum Na and K levels. The serum sodium was slightly low at 130 meq/L (normal, 136-146 meq/L) and K levels were elevated at 5.5 meq/L (normal, 3.5-5.0 meq/L). This constellation of hyponatremia and hyperkalemia with a low random blood sugar points toward adrenal dysfunction. It is important to initiate therapy for adrenal insufficiency with steroids lest the patient lands in adrenal crisis which can be fatal as in the present case. The manifestations of adrenal insufficiency are usually nonspecific and include weakness and fatigue, weight loss, anorexia,

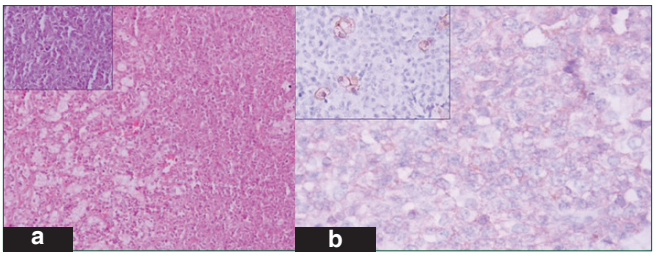

Figure 2: (a) Biopsy showing lymphoma cells (H&E, ×200) (Inset): Lymphoma cells with high mitotic activity (H&E, ×400) and (b) Immunohistochemistry for LCA (×200) showing membrane positivity in all the tumor cells. (Inset): Pancytokeratin (×200); Tumor cells - negative. Cells of adrenal gland - positive.

hyperpigmentation, hypotension, gastrointestinal symptoms, salt craving and postural symptoms. The laboratory abnormalities include hyponatremia, hyperkalemia, anemia, lymphocytosis, hypoglycemia, hypercalcemia, vitiligo, auricular calcification, etc.[2] Occasionally adrenal insufficiency can present as a sudden catastrophe with cardiovascular collapse as in Waterhouse-Freidrichson syndrome. In our patient anorexia, weight loss, anemia, hyponatremia and hyperkalemia were present. Adrenal insufficiency can result from causes primary to adrenal or secondary to hypothalamic pituitary disturbances. Perhaps the commonest causes are autoimmune and tuberculosis. The CECT abdomen revealed bilateral adrenal enlargement. The causes of bilateral adrenomegaly may include tuberculosis, metastasis (lung, breast, renal, melanoma, colon), hemorrhage, histoplasmosis, blastomycosis, coccidioidomycosis, cryptococcosis, lymphoma, amyloidosis, phaeochromocytoma.

Primary adrenal lymphoma is a rare entity usually affecting elderly (38-81years) with an extremely poor prognosis. Only around 80 cases have been reported till now. Although males are believed to be affected more commonly, our patient was a female.[3] Radiology reveals adrenomegaly with intratumoral necrosis. Most tumors are bilateral. These neoplasms are usually diffuse large B cell by histology and have a poor outcome. The poor outcome has been blamed on greater tumor size non-germinal center B-cell phenotype and presence of BCL-6 gene rearrangement.[4] Adrenal insufficiency is the most common presentation. As the name suggests, there is no extradrenal involvement. Early diagnosis is difficult in absence of pathognomonic symptoms. Therefore, from what appeared to be innocuous complaints, we now find that our patient has a very sinister illness.

Primary adrenal lymphomas are aggressive neoplasm. Although combined radiotherapy and chemotherapy can potentially cure primary adrenal lymphoma, our patient died before the pathology reports were available. Chemotherapy should be started after initiation of cortisol replacement. The most commonly used regimen is CHOP and complete remissions have been reported.[3,5]

Conclusions

Even seemingly innocuous symptoms may herald a sinister diagnosis. We had a patient with features of adrenal insufficiency which turned out to be primary adrenal lymphoma, a rare diagnosis. The case highlights the fact that adrenal insufficiency presents in a nonspecific manner and a high index of suspicion is needed. Although our patient could not be saved, it is apparent that therapy for adrenal insufficiency be initiated expeditiously to avoid crisis.

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