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Adrenal tuberculosis causing Addison's disease - a case report

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Background/Introduction:

Primary insufficiency of the adrenal glands is mostly caused by autoimmune reactions in the Western world (i.e. Morbus Addison). But also other diseases may cause adrenal insufficiency (i.e. Addison's disease), and in developing countries tuberculous adrenalitis remains a dominant cause. We describe an otherwise healthy man who presented with typical signs of primary adrenal insufficiency which was caused by tuberculosis.

Methods:

Case report

Results:

A 49-year old man, originally from Sri Lanka (living in Switzerland for 31 years), presented to his general practitioner with nausea, fatigue, sleep disorders, and weight loss for one year. Clinical examination showed hyperpigmentation of the neck, palms, and oral mucosa. Blood sodium (135mmol/l) and basal cortisol levels (147nmol/l) were in the lower range of normal, the latter with an inadequate rise after stimulation with ACTH (147nmol/l, cutoff 500nmol/l). Renin (335.8mU/l, UNL: 46.1mU/l) and ACTH (1317ng/l, UNL: 48.8ng/l) were elevated. Autoimmune antibodies specific for M.Addison were negative. Abdominal CT showed bilateral nodular enlargement and calcifications of the adrenal glands, as well as non-specific mesenterial, mediastinal and axillary lymphadenopathy. CT-guided biopsy of an adrenal gland and fine needle aspirations of axillary lymph nodes showed necrotizing granulomatous inflammation but no pathogen, neither in pathogen-specific staining, nor in molecular-based diagnostics (PCR) and culture. The interferon-gamma release assay (IGRA), urinary histoplasma antigen and serologies for syphilis and HIV were negative. Only excision of an axillary lymph node led to the final diagnosis of adrenal tuberculosis with a positive PCR and culture for Mycobacterium tuberculosis.

Conclusion:

Bilateral adrenal tuberculosis is a rare cause of primary adrenal insufficiency. In patients originating from endemic areas for tuberculosis, having negative autoantibodies but typical radiological and histopathological findings for adrenal tuberculosis, identification and susceptibility testing of the causing pathogen are important, as resistant M. tuberculosis is increasing worldwide. A negative IGRA never excludes active tuberculosis, therefore tissue sampling is essential.