

Adrenal TB: the great master of disguise!

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Introduction

- Delay in diagnosis of adrenal insufficiency is common. ~ 47% of patients have symptoms for over 1 year and 20% for over 5 years before diagnosis. Autoimmunity is the most common aetiology for Primary Adrenal Insufficiency (PAI) in developed countries. But up to 10-20% of PAI could be due to Tuberculosis (TB).
- TB usually affects lungs, extra pulmonary forms (EPTB) occur in up to 30% of cases. Isolated adrenal TB is relatively rare
- Adrenal glands are frequently involved in TB, adrenal insufficiency is rarely seen

Case Report

- A 42year old Afro-Caribbean male .
- 2 year history of nonspecific illness including reduced appetite, weight loss, intermittent fever presents with worsening symptoms
- After extensive inpatient investigations, he was discharged with probable viral infection and neutropaenia related to ethnicity
- Positive T-spot test. But lack of evidence of active TB at usual sites meant, he was diagnosed with latent TB, not requiring treatment
- The final diagnosis of adrenal TB was made following diagnosis of primary adrenal insufficiency and characteristic imaging findings

Investigations

FBC – Mild neutropaenia and thrombocytopenia, occasional hyperkalaemia, normal LFTs, U&Es and CRP. Unremarkable viral screen, haematological investigations including bone marrow aspirate for TB culture. Induced sputum AFBs and CXR were clear. Reactive T spot test. CT CAP – marked adrenal hyperplasia.

Endocrine Investigations

- 24 hr urinary metanephrines were normal
- Low baseline cortisol on overnight Dexamethasone suppression & intermittent mild hyperkalaemia prompted adrenal insufficiency
- **Synacthen Test:**
30 min Cortisol 113 nmol/L
Baseline ACTH: 1213 ng/L
- **Aldosterone: <89 pmol/L**
Renin 13 nmol//hr

Pre Treatment CT adrenal



Post Treatment CT adrenal



Outcome

- He felt remarkably better after commencing Hydrocortisone and Fludrocortisone
- Gradually regained his weight
- Given the imaging characteristics, isolated adrenal TB was the likely aetiology for PAI. After MDT discussion, he was commenced on 6 months Anti-tuberculous therapy.
- **Hydrocortisone was doubled while on Rifampicin**
- Follow up imaging show continued resolution of his adrenal hyperplasia.
- He remains on steroid replacement as his adrenal function has not recovered. This is not an uncommon outcome in TB adrenal cases

Discussion

- Thomas Addison in 1855 published 'On the Constitutional and Local Effects of Disease of the Suprarenal Capsules' while investigating a peculiar form of anaemia, majority of these cases were due to TB.
- More than 90% of the gland must be destroyed before insufficiency appears.
- Bilateral involvement is typical, initially glands are enlarged but later become atrophic with calcification
- Adrenal biopsy can be considered
- Recovery of adrenal function is very uncommon in this group
- To conclude, in anyone with PAI and bilateral adrenal enlargement ± calcification , adrenal TB needs to be ruled out

References

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