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WHEN TISSUE IS THE ISSUE: PRESUMPTIVE DIAGNOSIS AND TREATMENT OF BILATERAL ADRENAL TUBERCULOSIS

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INTRODUCTION

Adrenal tuberculosis (TB) is a rare but important cause of adrenal insufficiency in TB-endemic regions, usually secondary to pulmonary or extrapulmonary disease, with primary involvement being uncommon. It typically affects both glands via hematogenous or lymphatic spread and presents late with nonspecific features after significant adrenal destruction, making diagnosis challenging. Diagnosis is more straightforward in the presence of extra-adrenal TB, where imaging may obviate the need for biopsy, but remains difficult in isolated adrenal involvement.

CASE

We report a 69-year-old Malay male with diabetes mellitus, hypertension, and hyperlipidemia who presented with a 2-week history of chronic cough and 4 months of constitutional symptoms, including weight loss and anorexia. Initial TB workup in September 2025 was negative. He was subsequently admitted twice in October 2025 for pneumonia, with persistent upper lobe consolidation on chest radiography despite antibiotics.

Contrast-enhanced computed tomography thorax, abdomen, and pelvis revealed bilateral mildly enhancing hypodense adrenal lesions (right 3.7 × 3.0 cm, left 2.5 × 2.6 cm), suggestive of adenoma, hyperplasia, or lymphoma. Bronchoscopy detected Mycobacterium tuberculosis via GeneXpert BAL, with no malignant cells on cytology. Adrenal biopsy was non-diagnostic.

Biochemical evaluation showed low morning cortisol with elevated adrenocorticotropic hormone and findings consistent with adrenal insufficiency. The patient was treated as smear-negative pulmonary TB with adrenal involvement and initiated on anti-TB therapy, currently in the maintenance phase. Hydrocortisone replacement 10 mg twice daily was also initiated.

CONCLUSION

This case highlights the diagnostic challenge of adrenal TB, particularly when tissue sampling is inconclusive. In TB-endemic settings, a presumptive diagnosis based on clinical, radiological, and microbiological evidence is often necessary. Early empiric anti-TB therapy is essential to prevent adrenal crisis and preserve endocrine function.

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BEYOND MITOTANE IN A PATIENT WITH HIGHLY AGGRESSIVE ADRENOCORTICAL CARCINOMA

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INTRODUCTION

Adrenocortical carcinoma (ACC) is an aggressive malignancy with high rates of recurrence even after surgical resection. Surgery remains the mainstay of treatment, while adjuvant options are limited. Mitotane is the only approved systemic therapy. Current guidelines recommend stereotactic body radiotherapy (SBRT) alongside adjuvant mitotane therapy in Rx, R1, R2 resections and in locally advanced disease.

CASE

We present a case of a 40-year-old female who presented with abdominal pain and was found to have a large heterogeneous left adrenal mass measuring 8.2 × 8.5 × 9.5 cm (Hounsfield Unit 63) on computed tomography (CT) imaging. Clinically, she was obese with a body mass index of 33.7 kg/m^2. No discriminatory feature of Cushing's was present. Hormonal evaluation demonstrated autonomous cortisol secretion with failure of suppression on both overnight and low-dose dexamethasone suppression tests at 301 nmol/L and 313.6 nmol/L, respectively. DHEA, testosterone, and urinary metanephrine were within range. Hemoglobin A1c was 6.6%. She underwent open left adrenalectomy. Intra-operatively, a 12 × 10 cm adrenal tumor was identified with multiple areas of tumor rupture and spillage during mobilization. HPE confirmed high-grade ACC with high Weiss score of 8, Ki-67 index 60–80%, and mitotic count 54/50 hpf (pT2Nx). Post-operative CT imaging demonstrated a residual soft tissue lesion in the left adrenal bed (largest diameter 3.8 cm) with fluorodeoxyglucose avidity. We commenced adjuvant mitotane therapy, titrated to 2 g TDS with supraphysiological hydrocortisone replacement. Mitotane level was within therapeutic range (16 mcg/mL). She was deemed unsuitable for repeat surgery due to the proximity of the residual mass to the adjacent vessel and was planned for SBRT therapy after a multi-disciplinary team discussion.