

INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

## ADRENAL CORTICAL FUNCTION AND ADRENAL VOLUME IN LEPROSY: A STUDY OF 40 CASES

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**Introduction:** Leprosy is a chronic infectious disease predominantly affecting peripheral nerves and skin. Whether Mycobacterium leprae infection affects adrenal structure and/or its function remains to be fully elucidated.

**Objective:** To evaluate adrenal gland function and morphology by LDT and contrast enhanced computed tomography (CECT) respectively.

**Materials and Methods:** Forty untreated leprosy patients and 10 healthy controls were evaluated for adrenal function and morphology by measuring the basal and stimulated cortisol levels after a low dose adrenocorticotrophin stimulation test (LDT) and contrast enhanced computed tomography (CECT) respectively.

**Results:** The basal cortisol levels were in the normal range in leprosy patients and did not change significantly with the type of leprosy or presence of reaction ( $P > 0.05$ ). Peak cortisol response to LDT was  $< 550$  nmol/L at 30 and 60 minutes in 21 (52.5%) leprosy cases [two (15.4%) paucibacillary (PB) cases and 19 (70.4%) multibacillary (MB) cases] indicating significant subclinical adrenal insufficiency in multibacillary cases ( $P < 0.001$ ). This depressed response was unrelated to the presence or type of reaction. The mean adrenal gland volume was found to be marginally larger in leprosy patients (both PB and MB) than the controls, although, not statistically significant ( $P > 0.05$ ). All the leprosy patients had normal morphology of the adrenal glands.

**Conclusions:** There is a relative adrenocortical hypofunction in patients with multibacillary leprosy without any dimensional or structural change in adrenal glands. Thus, these patients may have suboptimal responses during periods of stress from infection, surgery or otherwise.