Adult Oral Presentation

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MILD AUTONOMOUS CORTISOL SECRETION IN ADRENAL INCIDENTALOMAS: CLINICAL PREDICTORS AND OUTCOMES IN A MALAYSIAN COHORT

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INTRODUCTION
Mild autonomous cortisol secretion (MACS) represents a functional spectrum of adrenal incidentalomas (AIs) that often go underdiagnosed due to the subtle biochemical profile and variable clinical impact. While extensively studied in Western populations, data on MACS in Asian cohorts, particularly from Southeast Asia, are scarce. This study aimed to evaluate the clinical, metabolic, and radiological characteristics of patients with MACS compared to non-MACS adrenal incidentalomas, and to assess the natural history and outcomes of conservative versus surgical management.

METHODOLOGY
We conducted a retrospective, multi-center analysis of 251 patients with non-malignant AIs across three Malaysian tertiary hospitals. Patients were classified based on hormonal evaluation into MACS and non-MACS groups. Baseline demographic, clinical, metabolic, and imaging features were analyzed. Logistic regression was used to identify independent predictors of MACS. In a subset of patients with MACS, outcomes of surgical versus conservative treatment were compared over a median follow-up period of 50 months.

RESULT
Mild autonomous cortisol secretion was identified in 12.7% (n = 32) of patients. Compared to non-MACS counterparts, patients with MACS had significantly higher prevalence of diabetes mellitus, dyslipidemia, obesity, and osteoporosis, and were more likely to have bilateral adrenal lesions. On multivariate analysis, only osteoporosis (OR 4.2; $p = 0.001$) and bilateral adrenal involvement (OR 4.2; $p = 0.003$) remained independently associated with MACS. Adrenalectomy in patients with MACS resulted in significant improvement in glycemic control and reduced antihypertensive use. Conversely, those managed conservatively demonstrated tumor growth and increased antihypertensive requirement over time.

CONCLUSION
Mild autonomous cortisol secretion is a clinically significant entity associated with increased metabolic morbidity. Osteoporosis and bilateral adrenal lesions are key predictors of MACS and warrant targeted screening. Surgical intervention may confer metabolic benefits, reinforcing the importance of individualized management strategies in patients with AIs.