EP_A002

EVALUATION OF MORNING CORTISOL IN DIAGNOSIS AND MANAGEMENT OF ADRENAL INSUFFICIENCY IN A TERTIARY HOSPITAL IN CENTRAL PAHANG

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INTRODUCTION
Adrenal insufficiency (AI) is a life-threatening condition that frequently presents with non-specific symptoms, complicating early diagnosis. Morning serum cortisol serves as an effective initial screening tool for assessing the hypothalamic-pituitary-adrenal (HPA) axis, potentially reducing the necessity for dynamic investigations such as the Short Synacthen Test (SST). This study aims to assess the clinical indications for morning cortisol testing and evaluate institutional compliance with guideline-based cortisol cut-offs, the initiation of hydrocortisone therapy, and the provision of "sick day" education.

METHODOLOGY
A retrospective cross-sectional study was conducted among inpatients at a tertiary hospital in Central Pahang who underwent morning cortisol evaluation between March and August 2025. Data regarding demographics, indications, biochemical results, and clinical management were analyzed using SPSS version 26.0.

RESULTS
Among the 111 patients included (mean age: 54.96 ± 15.88 years), the primary indications for testing were hyponatremia (54.1%), hypotension (27.9%), and a history of traditional medication use (26.1%). Based on Endocrine Society guidelines: <150 nmol/L (AI likely): 16.2%, 150–300 nmol/L (Borderline): 26.1%, and >300 nmol/L (AI unlikely): 57.7%. Notably, only 10 of the 18 patients with cortisol levels <150 nmol/L were formally diagnosed and initiated on appropriate therapy. In the borderline group, only two patients underwent an SST. Although 12 patients overall were treated for AI, only eight received documented "sick day" education. Low cortisol levels were significantly associated with hyponatremia, hypotension, and traditional medication use, and demonstrated a negative correlation with serum sodium and albumin levels.

CONCLUSION
Morning serum cortisol is a valuable screening tool for AI, particularly in patients presenting with hyponatremia or hypotension. However, significant gaps persist in follow-up management, confirmatory testing, and patient education. Implementing standardized protocols and enhancing clinician education are essential to optimize care.

EP_A003

PRIMARY ALDOSTERONISM IN A MALAYSIAN TERTIARY CENTRE: A RETROSPECTIVE AUDIT OF CLINICAL CHARACTERISTICS, DIAGNOSTIC PATHWAYS, AND TREATMENT OUTCOMES (2018–2025)

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INTRODUCTION
Primary aldosteronism (PA) is a common yet under-diagnosed cause of secondary hypertension, associated with increased cardiovascular and renal morbidity. Early detection and subtype-directed management significantly improve outcomes. However, adherence to recommended diagnostic pathways in real-world practice remains variable.

CASE
We conducted a retrospective audit of patients diagnosed with PA in a Malaysian tertiary centre from January 2018 to December 2025. Data collected included demographics, clinical presentation, biochemical parameters, diagnostic workup (aldosterone-renin ratio [ARR], confirmatory testing, adrenal imaging, and adrenal venous sampling [AVS]), treatment modality, and outcomes. Audit standards were based on established international guidelines.

A total of 14 patients were included, with equal gender distribution. The cohort comprised 57% Malay and 43% Chinese. Most patients presented with hypertension (mean ~170/100 mmHg), and hypokalemia was present in approximately 70% of the patients. ARR and adrenal imaging were performed in all patients (100%), while confirmatory testing was conducted in 85% of the patients. However, AVS utilization remained limited (50%). Contributing factors included failed cannulation, technical challenges in overweight patients, preference for medical therapy, refusal of surgery, and limited access to AVS services. The majority had unilateral adrenal adenoma (~75%). Treatment was divided between surgical (55%) and medical (45%) approaches. Post-treatment, hypokalemia resolved in 90% of patients, with a significant reduction in antihypertensive burden and complete hypertension resolution in approximately 35% of the patients. Quality of life improved in most patients.

CONCLUSION
This audit demonstrates good adherence to initial screening and imaging in PA but highlights suboptimal utilization of AVS. Barriers to AVS utilization are multifactorial, encompassing technical, patient-related, and system-

level limitations. Addressing these barriers is essential to optimize subtype-directed management and improve long-term cardiovascular outcomes in patients with PA. Despite this, clinical outcomes were favorable. Strengthening adherence to diagnostic pathways, particularly subtype confirmation, may further improve patient outcomes.

EP_A004

SINGLE-STAGE ADRENALECTOMY AND HYSTERECTOMY FOR PHEOCHROMOCYTOMA WITH GIANT UTERINE FIBROID: A MULTIDISCIPLINARY PERIOPERATIVE CHALLENGE

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INTRODUCTION

Pheochromocytoma is a catecholamine-secreting adrenal tumor associated with major perioperative hemodynamic instability. When concurrent major pelvic pathology requires surgery, operative planning becomes particularly challenging. We describe the successful single-stage management of pheochromocytoma and a giant uterine fibroid, highlighting the importance of multidisciplinary coordination and perioperative optimization.

CASE

A 49-year-old female with symptomatic uterine fibroid was found to have proliferative endometrium on a pipelle biopsy. Computed tomography (CT) abdomen incidentally detected a right adrenal mass alongside a large posterior uterine fibroid (11.9 × 17.4 × 14.6 cm). CT adrenal protocol demonstrated a heterogeneously enhancing right adrenal mass (6.9 × 6.9 × 9.6 cm) with high unenhanced attenuation. Biochemical evaluation revealed markedly elevated 24-hour urinary metanephrine (4.7× upper limit) and normetanephrine (2.4× upper limit).

Following multidisciplinary discussions, a single-stage surgical approach was planned after careful assessment of feasibility and perioperative risk in view of the uncertain malignant potential of the pelvic mass and to minimize repeated exposure to anesthesia. Preoperative optimization included transitioning from terazosin to phenoxybenzamine, with subsequent addition of bisoprolol for hemodynamic control. The operative strategy prioritized pheochromocytoma resection first, given its potential for significant hemodynamic instability. Progression to hysterectomy was contingent upon achieving adequate intraoperative hemodynamic stability following adrenalectomy, with continuous reassessment by the anesthetic and surgical teams.

Right adrenalectomy was performed first, followed by total abdominal hysterectomy with bilateral salpingo-oophorectomy. Significant hemodynamic lability occurred during tumor manipulation, with hypertensive surges managed using sodium nitroprusside and remifentanil infusions. Following adrenal vein ligation and tumor removal, hypotension was managed with noradrenaline and additional adrenaline support as required. Total operative time was approximately 6 hours. Postoperatively, transient noradrenaline support was required but was rapidly weaned as hemodynamic stability was achieved.

CONCLUSION

Single-stage adrenalectomy and major pelvic surgery can be safely performed in selected patients with pheochromocytoma when guided by meticulous preoperative optimization, clear intraoperative sequencing, and close multidisciplinary coordination.

EP_A005

MIMICKING PHEOCHROMOCYTOMA: HYPERTENSIVE CRISIS FROM ADRENAL HEMATOMA IN JAK2-POSITIVE POLYCYTHEMIA RUBRA VERA

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INTRODUCTION

Hemorrhagic suprarenal masses presenting with hypertensive emergency pose a significant diagnostic challenge, particularly when biochemical and radiological findings are inconclusive. The clinical presentation may mimic catecholamine-secreting tumors, necessitating consideration of a broad differential diagnosis, including pheochromocytoma, adrenocortical carcinoma, retroperitoneal hemorrhage, and hematological-related extramedullary lesions. Accurate diagnosis is essential, as management strategies differ significantly.