Adult E-Poster

EP_A001

ADRENAL INCIDENTALOMA: THE CLUES TO AID DIAGNOSIS

https://doi.org/10.15605/jafes.039.S1.012

Noor Fareha binti Nordin
Hospital Sungai Buloh, Malaysia

INTRODUCTION/BACKGROUND
Adrenal incidentaloma (AI) is found while imaging for a different purpose when there are no overt signs of adrenal illness. A thorough history and examination of a patient with adrenal insufficiency may provide more hints to help diagnose and narrow the differentials.

CASE
The first patient is a 25-year-old male with hypertension and chronic diarrhoea. Blood investigation showed deranged liver function. Ultrasound of the abdomen revealed a heterogenous hyperechoic mass at the right suprarenal region measuring 6.9 x 5.8 x 7.5 cm (APxWxCC) which is compressing the adjacent right liver lobe. Twenty-four-hour urinary-free metanephrine demonstrated that metanephrine and normetanephrine levels were twenty times higher than the upper limit of the reference value.

For the second patient, a 49-year-old female with hypertension and asthma presented with acute asthma exacerbation at the ED and POCUS showed an incidental finding of a right liver mass. Ultrasound of the abdomen showed a well-defined, heterogeneous hypoechoic, mixed solid-cystic lesion superior to the right kidney measuring 8.0 x 7.3 x 9.4 cm, suggestive of a right adrenal mass. Twenty-four-hour urinary-free metanephrine showed elevated normetanephrine 37.40 umol/24H (0.88-2.88).

The third patient is a 49-year-old female who presented with abdominal discomfort, anorexia and weight loss of 3 kg over 3-4 months. Colonoscopy and OGDS yielded normal results. Ultrasound of the abdomen showed a large, heterogeneous lobulated lesion seen in the left retroperitoneal region measuring 11.9 x 5.4 x 6.2 cm. Twenty-four-hour urine-free metanephrine was normal. Corticoadrenal carcinoma was ruled out. Serial CT of the adrenal done two months apart showed a rapid increase in the size of the left adrenal mass with multiple enlarged lymph nodes. CT-guided biopsy of the left adrenal revealed primary diffuse large B cell lymphoma.

CONCLUSION
Hypertension is common in patients with adrenal insufficiency. Symptoms and blood investigation can give clues to the specific adrenal hyperfunction present which can help narrow down the differentials, thus reducing the cost of work-up in a resource limited centre. A patient with phaeochromocytoma might be asymptomatic and a low level of urine metanephrine could be due to a necrotic tumour. Computed tomography of the adrenal is essential to assess the characteristics of the lesion to further risk stratify the patient.

EP_A002

TWO'S COMPANY - UNEXPECTED MEN 2 PRESENTING AS INCIDENTALOMA

https://doi.org/10.15605/jafes.039.S1.013

Jie En Tan, Florence Hui Sieng Tan, Yueh Chien Kuan, Pei Lin Chan
Endocrinology Unit, Medical Department, Sarawak General Hospital, Malaysia

INTRODUCTION/BACKGROUND
Bilateral pheochromocytomas are uncommon, classically described as occurring in 10% of cases. Such presentation should raise suspicion of the presence of a hereditary syndrome or predisposing genetic mutations.

CASE
A 43-year-old female presented with renal colic. A computed tomography scan showed nonobstructing renal calculi and bilateral adrenal incidentaloma measuring ~3.8 cm. Serum calcium was normal (2.16 mmol/L). Twenty-four-hour urinary metanephrines were elevated sevenfold above normal with normal normetanephrines. Physical examination was unremarkable except for labile blood pressure (SBP 135-170 mmHg). She only reported symptoms of occasional palpitations and mild headache. Family history was significant for the death of unknown cause of her mother and 2 elder siblings before the age of 60 years. MEN 2A was suspected. Ultrasound of the neck revealed four TIRADS-5 thyroid nodules measuring 0.7-1.3 cm, FNAC confirmed medullary thyroid carcinoma (MTC). Carcinoembryonic antigen was 13.6 ng/ml (<5).

She underwent bilateral retroperitoneoscopic adrenalectomy uneventfully following adrenergic blockade. Post-operatively, she was normotensive and received hydrocortisone and fludrocortisone replacement. Histopathological examination confirmed bilateral pheochromocytoma with

no malignant features. She awaits total thyroidectomy. Her kindred were advised to undergo screening for MEN 2, albeit the lack of genetic study due to financial constraints.

CONCLUSION

Genetic testing for RET proto-oncogene would be useful to guide management and screening in MEN 2. Medullary thyroid carcinoma is the most common manifestation of MEN 2 with 100% penetrance and should be actively sought for in patients suspected of having MEN 2.

EP_A003

RIFAMPIN-INDUCED ADRENAL CRISIS

https://doi.org/10.15605/jafes.039.S1.014

Teh When Yee, Gerard Jason Mathews, Seetha Devi Subramaniam, Shartiyah Ismail, Noor Rafhati Adyani Abdullah, Nor Shaffinaz Yusoff Azmi Merican

Endocrinology Unit, Department of Medicine, Hospital Sultanah Bahiyah, Malaysia

INTRODUCTION/BACKGROUND

Rifampicin is an essential first-line anti-tuberculosis drug. It is crucial for medical practitioners practicing in countries such as Malaysia where tuberculosis is endemic to recognize that rifampicin, an enzyme inducer, can have serious drug-drug interactions and needs to be used cautiously.

CASE

We describe a case of a 30-year-old male who sustained a mild traumatic brain injury with cerebrospinal fluid leakage in 2022. His injury was complicated by panhypopituitarism and secondary adrenal insufficiency, which required hydrocortisone 10mg/5mg BD and desmopressin replacement. He was compliant to hormonal replacement and remained asymptomatic throughout regular follow-up. In February 2024, he presented with submandibular swelling that turned out to be tuberculous lymphadenitis with pulmonary tuberculosis. He was started on first-line antituberculosis medications (Akurit-4), containing rifampicin, isoniazid, pyrazinamide and ethambutol with his usual dose of hydrocortisone. Three days after the initiation of anti-tuberculosis medication, the patient presented with vomiting, fever with postural dizziness without polyuria. Blood pressure was 102/64 mmHg, with postural hypotension and hypoglycaemia. The patient was diagnosed with adrenal insufficiency secondary to rifampicin.

The patient was started on intravenous hydrocortisone 50 mg QID. Laboratory investigations revealed serum cortisol of <27 nmol/L with adrenocorticotropic hormone level of 0.36 pmol/L. After adequate hydrocortisone replacement, the patient had polyuria with a gradual reduction of serum sodium to 125 mmol/L, unmasking the presence of central diabetes insipidus. Desmopressin was started and the patient clinically improved with normalisation of serum sodium.

CONCLUSION

In patients with pre-existing adrenal insufficiency, initiation of an anti-tuberculosis regimen containing rifampicin may increase the metabolism of cortisol by inducing cytochrome CYP3A4 activity and precipitate an adrenal crisis. Before initiation of anti-tuberculosis medications, drug-drug interaction should be reviewed. In such cases, dose adjustment of hydrocortisone is necessary to prevent adrenal insufficiency. Increasing the hydrocortisone dose gradually and close monitoring of the patient's biochemical and clinical state are important to reduce the risk of adrenal crisis and mortality.

EP_A004

THE RIFAMPICIN RED FLAG

https://doi.org/10.15605/jafes.039.S1.015

Joel Matthews, Gerard Jason Matthews, Nor Shaffinaz Yusoff Azmi Merican

Endocrinology Unit, Department of Medicine, Hospital Sultanah Bahiyah, Malaysia

INTRODUCTION/BACKGROUND

Rifampicin is an essential first-line anti-tuberculosis (TB) drug which exhibits potent hepatic enzyme-inducing properties. It has significant drug interactions with an array of other medications, including hydrocortisone as we report in this case.

CASE

A 65-year-old male, HIV positive, treatment-naive, with concurrent primary adrenal insufficiency (Synacten done: Cortisol 0 hour 247.8 nmol/L, 60 minutes 316 nmol/L, and normal ACTH 7.76 pmol/L) on hydrocortisone 10 mg/5 mg replacement for 4 months was admitted for prolonged fever and lethargy. He was diagnosed to have extrapulmonary TB by urine lipoarabinomannan (LAM) test and was started on isoniazid, rifampicin, pyrazinamide plus ethambutol – HREZ regime.

On Day 12 of HREZ, he exhibited hypoglycaemia, postural hypotension, and hyponatremia. Serial monitoring of his sodium levels showed a decreasing trend from a normal level initially of 135 mmol/L to a nadir of 116 mmol/L on day 21 of rifampicin. A diagnosis of adrenal insufficiency secondary to rifampicin was made. Rifampicin accelerates cortisol metabolism resulting in low levels of serum cortisol.