RESULTS
A total of 3,151 requests and results were reviewed. The main indication for the test was for hypertension work-up (85%), followed by nonspecific indications (9.4%), adrenal mass work-up (4%), neuroblastoma (1%) and MEN syndromes (0.1%). Out of 3,151 results, 0.5% were reported as abnormal (with significant elevation in any catecholamine metabolites) and 8% borderline (with non-significant elevation). For screening of secondary causes of hypertension, only 0.3% was found to have abnormal results. Some interventions taken by the laboratory to improve laboratory test utilisation include continuous feedback to clinicians for nonspecific indications, and revision of laboratory policy which allows only specialists to order the test.

CONCLUSION
In our institution, only 0.5% of the urinary catecholamine results were reported abnormal, consistent with the rare nature of the related diseases. The very low percentage of abnormal results for screening of secondary causes of hypertension may indicate the need to review the test ordering practices among clinicians.

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Incidence, Mortality and Clinical Outcome of Patients Hospitalised for Thyrotoxicosis with and without Thyroid Storm in a Single Tertiary Hospital

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INTRODUCTION
Current evidence on the incidence and outcomes of patients with thyroid storm in Malaysia is limited. We determined the incidence of thyrotoxicosis with and without thyroid storm and clinical outcomes among hospitalised patients in a tertiary hospital during an 8-year period.

METHODOLOGY
A retrospective analysis of clinical characteristics, mortality, hospital length of stay and treatment of thyrotoxic patients with age more than 18 years old in a tertiary hospital with an endocrine service from 2000 to 2018 was performed. Electronic medical records were reviewed to obtain data on predisposing factors, associated conditions and treatment during hospitalisation.

RESULTS
A total of 249 hospitalised patients with thyrotoxicosis were included. Most were female (73.9%), with a mean age 48.23±0.154 years, and of Malay (26.1%), Chinese (13.7%) and Indian (3.2%) ethnicity. Only 19 (7.7%) were diagnosed with thyroid storm. Graves' disease (59.8%) was the most common cause of hyperthyroidism, and 15.7% of these hospitalised patient were admitted after one month of being diagnosed. Majority of the patients received carbimazole (81%), with a mean dosage of 20.7 mg OD (±0.77). Precipitating factors included a history of non-compliance to anti-thyroid medication (27.7%) and surgical procedure (10.8%). Mortality and mean length of stay for thyrotoxicosis with or without storm is 6% and 5.91 days (±0.356), respectively. The associated conditions that may have increased morbidity were found in many patients: these included atrial ffibrillation (18.9%), acute heart failure (11.6%), acute respiratory failure (10%), acute coronary syndrome (8%), acute renal failure (4.8%), invasive ventilation (4.4%), diabetic ketoacidosis (3.6%), acute ischemic stroke (3.2%), cardiac arrest (2%), acute liver failure (1.8%), ssupraventricular tachycardia (1.2%), cardiogenic shock (1.2%), non-invasive positive pressure ventilation (1.2%), encephalopathy (1.2%), intracranial haemorrhage (1.2%), adrenal insufficiency (0.8%) and pulmonary embolism (0.4%).

CONCLUSION
Associated conditions were found to be frequent in hospitalized patient with thyrotoxicosis with or without thyroid storm. The small percentage of thyroid storm may reflect underreporting or under recognition.

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Favourable Outcomes of Lithium Carbonate in the Management of Concomitant Thyrotoxicosis and Acute Dengue-Induced Hepatitis and Neutropenia

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INTRODUCTION
Dengue is one of the most important arthropod-borne viral diseases in tropical countries. The liver is one of the most common organs affected, seen in approximately 60 to 90% of patients. It is an arduous task for clinicians to predict the clinical outcomes of dengue-induced hepatitis and neutropenia, particularly in the presence of concomitant thyrotoxicosis and the attendant risks of its