have better thermogenic capability. This can serve as a target for further investigation for therapeutic intervention in obesity.

## EP_B003

### CENTRAL DIABETES INSIPIDUS WITH COVID-19 PNEUMONIA: A CASE REPORT

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#### INTRODUCTION
Although COVID-19 is well-known for its respiratory manifestations, extrapulmonary presentations such as cardiac arrythmias, acute coronary syndrome, thrombosis, neurologic and ocular illnesses have also been reported. The mechanism of extrapulmonary complications of COVID-19 involves both the direct effects of SARS-CoV-2 via ACE2 receptors and indirect mechanisms associated with dysregulated host immune response. Apart from the respiratory system, ACE2 receptors are widely expressed in the cardiovascular, gastrointestinal, urogenital and nervous systems, which explains the multisystemic effects seen in COVID-19.

#### CASE
We present a case of COVID-19 pneumonia complicated by central diabetes insipidus.

A 64-year-old female with hypertension, diabetes mellitus and atrial fibrillation presented with fever and vomiting for two days. She was lethargic, with stable vitals and slight tenderness at the right upper quadrant of abdomen. She was initially treated with antibiotics in the emergency unit for ascending cholangitis. Contrast-enhanced abdominal CT showed cholelithiasis with no intraabdominal collections. COVID-19 GeneXpert tested positive. Chest radiography showed right lower zone opacities. On the ninth day of admission, she had polyuria (6000 mL in 24 hours). Test results showed serum Na 141 mmol/L, serum osmolarity 300 mOsm/kg, urine osmolarity 89 mOsm/kg and urine Na 15 mmol/L, suggestive of diabetes insipidus. She responded well to subcutaneous desmopressin, which reduced urine output to 15 to 30 mL/hour and improved results of her paired samples. While pituitary tests were normal, MRI revealed absence of T1 hyperintensity in the posterior pituitary, supporting the diagnosis of central DI. She required regular desmopressin doses for up to 3 weeks. Her polyuria resolved in her subsequent admission 4 months later for heart failure.

#### CONCLUSION
This case highlights self-limited diabetes insipidus as one of the extrapulmonary manifestations of COVID-19.

## EP_B004

### IMPACT OF COVID-19 ON THE INCIDENCE OF NEWLY DIAGNOSED TYPE 1 DIABETES MELLITUS: A SINGLE-CENTRE EXPERIENCE

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#### INTRODUCTION
Recent studies suggest the increasing occurrence of newly diagnosed type 1 diabetes mellitus during the COVID-19 pandemic. It is postulated that the COVID-19 virus triggers a cascade of autoimmune reactions leading to the development of antibodies against beta cells of the pancreas. This study investigates the incidence of newly diagnosed T1DM in a Malaysian tertiary centre during the COVID-19 era in comparison to the same duration prior to it.

#### METHODOLOGY
This is a single-centre retrospective cross-sectional study among newly diagnosed T1DM patients. Patients aged between one year to less than 18 years old, who were referred to the Paediatric Endocrine Unit of the University Malaya Medical Centre from September 2017 to August 2022 were included in this study. Data including age, gender, anthropometric measurements, diabetic ketoacidosis occurrence, biochemical results and COVID-19 status for the past three months were obtained.

#### RESULTS
Fifty-seven patients who fulfilled the criteria of T1DM were included. Thirty-two patients (56%) were diagnosed during the COVID-19 era. Forty-four patients (77%) presented with DKA. There is no difference in the incidence of DKA and the severity status between these two periods, (77% versus 76.7%, $p$=0.902; and 51.9% versus 53.3%, $p$=0.546, respectively. Although not statistically significant, more patients needed pediatric ICU admission (13 versus 9), with lower pH at presentation during the COVID-19 era (7.05 versus 7.12). More than a third (37.5%) needed intubation ($p$=0.019). Recovery was also longer (48 hours versus 36 hours).

### CONCLUSION
Despite the absence of a significant statistical difference, more patients presented with more severe DKA with longer recovery during the COVID-19 pandemic. A larger multi-centre study is needed to evaluate the magnitude of the impact of COVID-19.

## EP_B005

## DOES THE INCIDENCE OF DIABETIC KETOACIDOSIS IN PATIENTS WITH TYPE 1 DIABETES MELLITUS DIFFER DURING COVID-19 PANDEMIC?

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### INTRODUCTION
Recent studies have observed increased numbers of newly diagnosed type 1 diabetes patients and higher incidence of diabetic ketoacidosis in T1DM patients during the COVID-19 pandemic. The care of non-COVID-19 patients was compromised due to the tremendous burden of managing critical cases of COVID-19 patients. However, this finding is not consistent. This study compares the incidence of DKA and its severity during the pandemic with the similar timing prior to it.

### METHODOLOGY
This is a retrospective cross-sectional study on all of patients who were either newly diagnosed or pre-existing patients with T1DM aged one to 18 years old treated at University Malaya Medical Centre for DKA. from September 2017 until August 2022. Data on demographics, first DKA presentation, recurrence, severity, pediatric ICU admission, duration of recovery, COVID-19 status, duration from symptoms to presentation, and biochemical values were obtained.

### RESULT
A total of 96 DKA cases were reported from September 2017 until August 2022. An equal number of DKA cases (48) was seen in each period. Fifty patients (69%) were newly diagnosed. Recurrent DKA occurred more during the COVID-19 period (27 versus 21). More patients presented with severe DKA during the pandemic (24 versus 19). Although not statistically significant, newly diagnosed T1DM presented with more severe DKA with lower pH (7.05 versus 7.12, $p$=0.417) and took longer to recover compared to the pre-pandemic period (48 versus 36 hours, $p$=0.150). Three newly diagnosed patients were COVID-19 positive with COVID-19 Category 2b and presented in moderate to severe DKA.

### CONCLUSION
There was no difference in the number and severity of DKA cases during the pre-pandemic and COVID-19 pandemic period. A larger-scale study is needed to analyse the impact of COVID-19 on the incidence and severity of DKA.

## EP_B006

## INSULIN ANTIBODY MEASUREMENTS: SHEDDING LIGHT ON HIRATA'S DISEASE

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### INTRODUCTION
The Endocrine Society Clinical Practice Guideline recommends measurement of insulin autoantibodies (IAA) upon confirmation of endogenous hyperinsulinism. The differential diagnosis of endogenous hyperinsulinism include insulinoma, post-bariatric hypoglycaemia, nesidioblastosis and insulin autoimmune syndrome (IAS). IAS, also known as Hirata's disease, is a rare immune-mediated disorder characterised by hyperinsulinaemic hypoglycaemic episodes. It is increasingly being recognized in Malaysia because of accessibility to IAA testing.

### CASE
We describe two cases of newly diagnosed IAS with varied clinical presentations and treatment approaches. The first patient is a 57-year-old male with Graves' disease who experienced severe and recurrent hypoglycaemia during fasting and postprandial states. The second patient is a 56-year-old female with hypertension and bronchial asthma who developed recurrent hypoglycaemia despite cessation of insulin therapy following the treatment for severe refractory diabetic ketoacidosis.

Laboratory findings for both patients showed elevated serum insulin and C-peptide during the hypoglycaemic event, with insulin/C-peptide ratio >1. Pancreatic antibodies were negative. Serum insulin autoantibodies measured on