PP-07

Defining Morning Serum Cortisol Cut-off Value in Predicting Normal Response to Short Synacthen Test: A Single Centre Retrospective Study

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Jing Ling C, Shu Teng C, Norhaliza MA
Endocrine Unit, Department of Medicine, Hospital Sultanah Aminah Johor Bahru, Malaysia

INTRODUCTION
Ambulatory morning serum cortisol<100 nmol/L has been demonstrated in some studies to be predictive of adrenal insufficiency with reasonable accuracy. However, data on the serum cortisol level that predicts adrenal sufficiency is inconclusive. This study aims to determine the serum morning cortisol value best predictive of normal response to Short Synacthen Test (SST) in our patient cohort.

METHODOLOGY
A retrospective study was conducted on SSTs performed from September 2016 to December 2018 in Endocrine Unit, Hospital Sultanah Aminah Johor Bahru (HSAJB). Relevant information including demographic data, indications for SST, baseline morning serum cortisol levels and SST results were derived from clinic notes as well as cobas® infinity central laboratory system. Normal response to SST was defined as a 30-min or 60-min post-Synacthen cortisol of >500 nmol/L.

RESULTS
Thirty [median age 55 years (IQR 32.50, 65.25), 53.3% male] out of 55 patients who underwent SSTs from September 2016 to December 2018 were included in the analysis. Exogenous steroid usage constituted one-third of the indications for SST; followed by pituitary tumour +/- surgery (30%) and Rathke's cleft cyst (6.7%). Fourteen patients (46.7%) demonstrated normal response to SST. Baseline morning cortisol was demonstrated to be an unsatisfactory tool to predict adrenal sufficiency in our patient cohort [area under curve (AUC) 0.518, 95% CI 0.306–0.730]. The cut-off level most predictive of adequate adrenal reserve was identified to be >266 nmol/L with a specificity of 93.7%, but at the expense of a very low sensitivity (14.3%). Age was a statistically significant predictor of adrenal reserve. Increasing age was associated with a reduction in the likelihood of exhibiting adequate SST response (odds ratio 0.860, 95% CI 0.741–0.997, p=0.046).

CONCLUSION
Baseline morning cortisol has a low overall predictive value of passing SST in our patient cohort. Rising age increases the probability of failing SST.

PP-08

Sodium Glucose Cotransporter-2 Inhibitor Tolerability and Renal Safety During Ramadan Fasting

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Kian Guan G, Saiful Shahrizal S, Miza Hiryanti Z
Hospital Tengku Ampuan Afzan, Kuantan, Malaysia

INTRODUCTION
During Ramadan, typically Muslims fast for 14 hours a day. For persons with diabetes, taking sodium glucose cotransporter-2 inhibitors may induce polyuria and dehydration leading to acute kidney injury. This study looked into the tolerability and renal function of persons with diabetes starting SGLT2 inhibitors during Ramadan fasting.

METHODOLOGY
This is a prospective cohort, interventional study conducted during April and May 2019. Muslim subjects with diabetes who were willing to fast during Ramadan were recruited from diabetic clinic Hospital Tengku Ampuan Afzan. Baseline blood and anthropometry measurements were taken. They were given Empagliflozin 25 mg OD starting 2 weeks prior to Ramadan and continued throughout fasting. During the 2nd visit between 2nd to 4th week of Ramadan, patients had their blood testing and interview via questionnaire. Visit 3 was done 1-month post visit 2.

RESULTS
Thirty-four subjects were recruited. 2 subjects subsequently withdrew. Mean duration of diabetes was 9.8 years and HbA1c was 10.08%. 41.3% of subjects reported thirst after starting the drug whilst 42.4 % experienced polyuria. 31% had hunger sensation but only 1 subject had documented hypoglycaemia. 17.2% of subjects need to take breakfast earlier. None reported UTI symptoms. Mean delta urea was -0.78 mmol/L and mean delta creatinine -7.2 umol/L. 25% had changes of creatinine above 20%. One subject was withdrawn as her serum creatinine doubled after commencing treatment. Her prior medicine included multiple diuretics (frusemide, hydrochlorothiazide and spironolactone). However, subject denied uraemic symptoms and renal function improved once study drug was stopped.

CONCLUSION
Dehydration and polyuria are main issues faced by subjects on SGLT2 inhibitors during Ramadan. There are safety concerns of worsening renal functions especially when subjects cannot counteract polyuria due to fasting. Physicians should exercise caution when SGLT2 inhibitor is prescribed with a diuretic as it potentiates dehydration. Frequent checking of renal function during Ramadan is also advised.