

PP-30

PROLONGED QT AND MONOMORPHIC VT: A RARE PRESENTATION OF PHEOCHROMOCYTOMA

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INTRODUCTION

Pheochromocytomas classically present with the triad of headaches, palpitations and diaphoresis; and very rarely with isolated cardiac rhythm abnormality.

RESULTS

We report a 46-year-old female with pheochromocytoma presenting with prolonged QT interval and monomorphic ventricular tachycardia (VT). She has no known cardiovascular risk factors. She initially presented at the emergency room with chest tightness and palpitations. Her BP was 200/100 mmHg and she was tachycardic (110 beats/min). ECG showed widespread deep T wave inversion with significantly prolonged QTc, 580 milliseconds. Troponin I levels were elevated and she was treated for acute coronary syndrome. Within an hour of presentation, she developed multiple episodes of monomorphic VT requiring amiodarone infusion. Echocardiography revealed preserved left ventricular ejection fraction (55%) with hypokinetic apical, lateral and anterior left ventricular wall. Further history revealed loss of weight of 6kg and paroxysms of cold sweats over the past 3 months. The 24-hour urinary catecholamines and metanephrines were elevated more than 30x the upper limit of normal. Imaging showed a 4.8 x 4.5 x 5.5 cm mass in the right adrenal gland. A diagnosis of right adrenal pheochromocytoma was made. She was commenced on alpha-blockade with phenoxybenzamine, followed by cardio-selective beta-blockade with bisoprolol. After two weeks of adequate blockade and volume expansion, she underwent right adrenalectomy. Postoperatively, she required no anti-hypertensives and had no recurrence of VT. Her ECG showed resolution of T wave inversions and significantly improved QTc, at 495 milliseconds. Upon follow-up 2 months post-operatively, she remained normotensive with no arrhythmias and normalised urinary catecholamines and metanephrines.

CONCLUSION

The toxic effects of catecholamines include coronary vasospasms, cardiomyopathy and diverse electrocardiographic abnormalities of rhythm, conduction and repolarization, which can manifest as acute coronary syndrome, heart failure or prolonged QT intervals and malignant arrhythmias. This case provides a vignette for this rare presentation and resolution of these cardiac abnormalities with treatment of pheochromocytoma.

PP-31

USER ACCEPTABILITY OF FREESTYLE (FS) LIBRE FLASH GLUCOSE MONITORING SYSTEM IN PATIENTS WITH DIABETES

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INTRODUCTION

The use of Freestyle (FS) Libre flash glucose monitoring system (FGM) helps to overcome barriers with conventional glucometer. It allows continuous glucose reading without the need for finger prick user calibration. The aim of this survey was to assess the user acceptability of the device in patients with diabetes.

METHODOLOGY

This is a 12-week cross-sectional study performed among patients with diabetes who were put on intermittent use of the FS FGM system for 12 weeks. The patients' user acceptability was collected in a questionnaire using the 5-point Likert scale ('Strongly Disagree, Disagree, Indifferent, Agree, Strongly Agree') on a series of questions concerning (i) Ease of use and application of device (ii) Comfort and usage (iii) The operation of device (iv) Efficiency of device in disease management and compliance (v) Patient satisfaction.

RESULTS

The study included 100 patients with the following breakdown in DM types: T1DM (n=42), T2DM (n=47) and DM in pregnancy (n=11). The mean duration of diabetes was 13 years. About 98% of patients find that the instruction for FS Libre was easy to understand. More than 91% of patients felt that it was easy to use, makes life easier and has a small glucose sensor. Only 17.7% of patients experienced local discomfort while wearing the glucose sensor. About 86.5% of patients felt that the glucose sensor did not interfere with daily activities. Around 88.8% of patients felt that the FS Libre could replace the finger-prick SMBG as a monitoring device. More than 97% of patients agreed that this method is faster, simplified and assisted in the adjustment of insulin dose. Majority of patients (95.8%) preferred FS Libre compared to their previous SMBG system.

CONCLUSION

The user experience of FS Libre based on ease of use, application, operation and comfort, efficiency in disease management and patient satisfaction were demonstrated in this study.

PP-32

GROWTH HORMONE TREATMENT RESPONSE FOR CHILDREN WITH GROWTH HORMONE DEFICIENCY AND TURNER SYNDROME (TS) IN A TERTIARY CARE CENTER

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INTRODUCTION

Recombinant growth-hormone (rhGH) has been widely used to treat a variety of growth disorders. Although responses are generally satisfactory, evidence is increasing for a high rate of poor or unsatisfactory response.

This study aimed to evaluate the growth response to rhGH therapy in the patients in our tertiary centre and identify the poor responders.

METHODOLOGY

This is a cross-sectional study based on medical records of the patients still on rhGH in year 2019-2020. The growth parameters and rhGH doses recorded throughout the treatment were retrieved.

Poor response was defined as first-year increment in height standard-deviation-score (SDS) <0.5 for patients with severe growth hormone deficiency (GHD) or <0.3 for other diagnoses.

RESULTS

Thirty-five patients were included in the study with 20 (57%) diagnosed with GHD and 15 (43%) with Turner syndrome (TS).

Majority of the patients with GHD had severe organic GHD with peak GH level <5 µg/ml (52.4%). Most presented with significant short stature with height SDS of -4.15 ± 1.32 on initiation of treatment. The first-year height velocity (HV) was 10.0 ± 3.1 cm/year (3.42 ± 2.66 SDS) with median height increment of 0.74 (-0.57-2.83 SDS). The subsequent years, HV remained steady with average of >6 cm/year (0.62-2.94 SDS).

The patient with Turner Syndrome had a starting height of -3.52 ± 1.05 SDS. The first year HV was 7.5 ± 1.4 cm/year (1.65 ± 1.95 SDS) with median height increment of 0.31 (-1.32-0.74 SDS). HV for the subsequent years was on average 4-5.5cm/year (-2.51-0.61 SDS).

The average rhGH doses was 0.033 ± 0.003 mg/kg/day for patients with GHD and 0.046 ± 0.004 mg/kg/day for patients with TS.

Poor responders comprised 19% of patients with GHD and 21.4% of patients with TS.

CONCLUSION

Patients with severe GHD generally responded better to rhGH therapy as compared to those with idiopathic GHD and TS.

Awareness, recognition, and management of poor response to growth-promoting therapy will lead to better patient care, greater cost-effectiveness and improved clinical benefit.