CASE

A 33-year-old male, presented with hypogonadism and infertility. His symptoms of hypogonadism preceded an increase in weight of 40 kg within two years. Blood pressure was 112/78 mmHg. He had sparse facial and axillary hair with Tanner stage 2. His latest weight was 164 kg (BMI 52 kg/m²). He had no acanthosis nigricans. His serum prolactin was 5985 m IU/L. He had low fasting morning serum testosterone [1.11 nmol/L]. FSH and LH levels were both low [0.3 IU/L]. His metabolic parameters were all normal: HDL 1.1, LDL 2.7, Triglyceride 1.1 (mmol/L), HbA1c 5.3%, Fasting Blood Sugar 4.7 mmol/L. MRI showed pituitary microadenoma. Other anterior pituitary hormonal assays were normal. He was started on Cabergoline 0.5 mg once a week.

CONCLUSION

The relationship between hyperprolactinemia and obesity is complex. In our patient, the sudden weight gain coincided with symptoms of hypogonadism due to hyperprolactinaemia. Thus, hyperprolactinaemia may have contributed to his weight gain. He also has normal metabolic parameters despite being obese class 3, which could indicate the protective value of elevated prolactin levels. In treating obese patients with hyperprolactinemia, a prolactin level that is too high or too low is proven to be unfavourable.[3] Thus, treatment with cabergoline has been shown to help in reducing weight in this group of patients while keeping the serum prolactin at a slightly higher level to avoid diminishing the protective value of prolactin in obese patients.[3,4,5]

EP_A063

A CASE OF KETOGENIC DIET-INDUCED ELEVATED CHOLESTEROL

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INTRODUCTION/BACKGROUND

Weight management through exercise and dietary intervention has been shown to reduce cardiovascular risk. Here, we report a case of significant weight loss achieved through exercise and a ketogenic diet, resulting in a deranged lipid profile.

CASE

A 39-year-old female with underlying class 3 obesity and type 2 diabetes mellitus on metformin 500 mg BD was first seen in March 2022. Her weight was 153 kg and her BMI was 58.2 kg/m². Since then, she has diligently followed a strict ketogenic diet and exercised daily. She ate one meal a day, and her diet primarily consisted of meat, eggs, nuts, cheese and fresh cream. Over the past 18 months, she successfully lost 85 kg, and her BMI decreased to 25.6 kg/m². Notably, her body composition improved, and her diabetes went into remission. However, her lipid profile exhibited marked derangement.

Physical examination revealed no significant abnormalities, and it was noteworthy that both her parents had a history of dyslipidaemia. In response to the deranged lipid profile, the patient was advised to discontinue her current dietary plan. Instead, a more balanced diet emphasizing lower fat content, higher fibre intake and appropriate carbohydrate levels was recommended. Additionally, she was initiated on atorvastatin in October 2023 to address the lipid abnormalities. Regular monitoring and follow-up appointments were scheduled to track her progress.

CONCLUSION

While intermittent fasting and the ketogenic diet can undoubtedly lead to desired weight loss, patients should be counselled and carefully monitored by their physicians. This case illustrates that much is still unknown about the impact of these diets.

EP_A064

BODY COMPOSITION CHANGES 12 MONTHS POST-METABOLIC SURGERY IN MALAYSIAN ADULTS WITH OBESITY: THE DIFFERENCES IN DIABETIC STATUS

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INTRODUCTION

Body composition analysis following metabolic surgery is vital for clinical evaluation and monitoring treatment outcomes. In Malaysia, however, the evidence for these changes is limited. We aimed to explore the changes in body composition in patients with obesity after 12 months of metabolic surgery, according to their diabetes status.

METHODOLOGY

This is a multicentre intervention study involving patients with obesity undergoing metabolic surgery in private centres around Klang Valley. Those with a body mass index (BMI) of ≥25 kg/m^2 were categorized into two groups: non-diabetes mellitus (non-DM) and diabetes mellitus (DM). Body composition components, including skeletal muscle mass (SMM), percentage body fat (PBF) and visceral fat area (VFA), were measured using a bioimpedance analyser (InBody S10). Statistical analysis was conducted using the SPSS software version 29.

RESULTS

This study involved 121 patients, most of whom were female (n = 74, 61.2%) and Malay (n = 82, 67.8%). The overall mean age was 39.02 (SD 7.8) years. At baseline, there was no significant difference in mean BMI between the non-DM and DM groups (P = 0.203). At six months, significant improvement was observed in weight, BMI, WC, PBF, VFA, and SMM in both groups (P <0.001) compared to baseline. These significant improvements in all parameters were maintained up to month 12 in both groups (P <0.05), except for SMM in patients in the non-DM group (P >0.999). Nevertheless, there is no significant difference in between-group comparison for all parameters throughout the study period (P >0.05).

CONCLUSION

Metabolic surgery has significantly improved body composition both in diabetic and non-diabetic individuals at six months, with benefits persisting at 12 months. Continuous monitoring for both groups is crucial for maintaining long-term benefits and optimizing outcomes.

EP_A065

AN OBSERVATIONAL ANALYSIS OF INSULINOMA FROM A TERTIARY CARE CENTRE

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INTRODUCTION/BACKGROUND

Insulinomas are the most common pancreatic neuro-endocrine neoplasms. Diagnosis requires the demonstration of inappropriately high insulin and C-peptide levels after a prolonged fast, followed by tumour localization by radiological methods and endoscopic ultrasound with functional scans if suspicious for metastasis. Tumour removal by surgery or radiofrequency ablation (RFA) remains the mainstay of treatment.

METHODOLOGY

Data of patients from 2000 to 2023 diagnosed as functioning pancreatic NET in Hospital Putrajaya, Malaysia, were analysed retrospectively. This study aimed to evaluate the clinical features, preoperative laboratory results, imaging diagnosis, surgical treatments and pathologic findings of insulinomas in this centre.

RESULTS

Of 21 patients with functioning pancreatic NET, 19 patients were diagnosed with insulinoma with a male/female ratio of 0.6:1. Malignant insulinomas comprised 16.7% of patients. The median age of onset was 41 years. All patients presented with autonomic symptoms, more than 80% presented with neurological symptoms, and 38% had weight gain. Mean duration of symptoms prior to diagnosis was 2.3 years. All three diagnostic criteria of the functional European Neuroendocrine Tumour Society were met by 89% of patients, while 11% met two of the three criteria. The preoperative detection rates of CT, MRI and EUS were 67%, 40% and 78%, respectively. ASVS was diagnostic in 71% of patients. Regarding treatment modalities, 40% of patients underwent pancreatic enucleation, 40% had partial pancreatectomy and 6% had RFA. The mean tumour size was 2.3 cm. Ki-67 were all less than 20%, with 88% having Ki-67 G1 or were well-differentiated. On further follow-up, 10% of these patients developed other manifestations of MEN-1 syndrome.

CONCLUSION

Our observational analysis showed that insulinomas were diagnosed in young to middle-aged patients with female preponderance. Initial presentations were mainly neurological, autonomic and with weight gain. Most also fulfilled the ENET biochemical criteria. The tumours are mostly small in size and have a low proliferative index. Clinical and biochemical manifestations for malignant insulinomas do not significantly differ from benign ones.