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EP_A039

UTILITY OF BRONCHOSCOPIC INTRA-TUMORAL ALCOHOL INJECTION (ITAI) IN MEDIASTINAL PARAGANGLIOMA: A CASE REPORT

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INTRODUCTION/BACKGROUND

ITAI is an emerging bronchoscopic modality to restore airway patency in malignant airway obstruction, particularly in primary lung cancers and metastatic thoracic diseases. Its use in mediastinal paragangliomas, however, remains under-researched. Mediastinal paragangliomas present unique challenges for complete resection due to their high vascularity and proximity to critical structures.

CASE

A 35-year-old female presented to the respiratory clinic with chronic cough, hemoptysis and dyspnea. Her past surgical history included a right adrenalectomy done 15 years ago for pheochromocytoma. She was in biochemical remission up to 3 years post-operatively, then defaulted. Recently, she also experienced paroxysmal symptoms of headache, palpitation and diaphoresis, coinciding with new-onset hypertension. CT thorax revealed a middle mediastinal mass compressing the right bronchus intermedius and right lower lobe bronchus, causing segmental lung collapse. Her 24-hour urine metanephrines were 26 times elevated for normetanephrines at 58950 nmol/L (606-2287), and endobronchial biopsy confirmed paraganglioma. Multidisciplinary team discussions concluded that complete surgical resection was impossible, and multimodal therapies including systemic, radionuclide and local therapies, were indicated for disease control. Bronchoscopic interventions using ITAI combined with cryoablation, argon plasma coagulation and balloon dilation were performed in two separate sessions, following at least 10 days of preprocedural alpha blockade. The patient underwent the procedure without experiencing a catecholamine crisis but required a pint of packed red blood cell transfusion due to a drop in hemoglobin levels from post-procedural hemoptysis. Subsequent chest radiographs demonstrated improvement with better symptom control.

CONCLUSION

ITAI is a promising adjunctive debulking modality for managing mediastinal paragangliomas, particularly in alleviating disabling obstructive symptoms caused by endobronchial obstruction. ITAI induces tumor cell necrosis and microcirculatory embolization, thereby inhibiting tumor growth and reducing blood supply to the treated area. It may also serve as a bridge to systemic, radionuclide, or targeted therapies in cases where surgical resection is not feasible.

EP_A040

YOUNG-ONSET DIABETES MELLITUS: A DIAGNOSTIC AND MANAGEMENT DILEMMA

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INTRODUCTION/BACKGROUND

Type 1 diabetes mellitus is typically characterized by severe insulin deficiency with diabetes-related autoantibodies, though up to 5% of patients may have insulin deficiency without these autoantibodies. Diagnosing and managing diabetes in young adolescents can be particularly challenging. We present a case of a 12-year-old male diagnosed with diabetes after presenting with diabetic ketoacidosis (DKA), facing significant management challenges.

CASE

A 12-year-old male presented with severe DKA requiring ventilatory support in December 2021. His parents had no history of diabetes, but two older siblings had type 2 diabetes. After successful DKA management, he was discharged with basal-bolus insulin therapy. His HbA1c was 15%, and investigations revealed absent autoantibodies and a low C-peptide level (<3.33pmol/L), suggesting insulin deficiency. Despite treatment, he experienced frequent nocturnal and postprandial hypoglycaemic episodes, as confirmed by continuous glucose monitoring (CGM). Reducing insulin doses did not resolve the hypoglycaemia. His condition was further complicated by non-compliance due to peer pressure and reluctance to take insulin while attending boarding school.

A trial of basal insulin combined with sulfonylurea and close glucose monitoring resulted in over six months of stable glucose levels without hypoglycaemia. However, after a subsequent hospitalization for *Klebsiella* bacteraemia and uncontrolled glucose, basal-bolus therapy was reinstated in

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October 2024. During this hospitalization, C-peptide levels increased to 287 pmol/L. Given his ongoing difficulties with insulin compliance, a new trial with basal insulin and a DPP-IV inhibitor was initiated.

CONCLUSION

The initial diagnosis of Type 1B diabetes was suggested by low C peptide and negative autoantibodies. Persistent hypoglycaemia despite low insulin doses and the challenge of non-compliance led to consideration of MODY variants, prompting trials with oral glucose-lowering drugs. Further genetic studies are needed for a definitive diagnosis.

EP_A041

FASTING, FEASTING, AND FALLING GLUCOSE: A CASE OF NON-INSULINOMA PANCREATOGENOUS HYPOGLYCEMIA SYNDROME FOLLOWING WEIGHT LOSS AND KETOGENIC DIET DISCONTINUATION

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INTRODUCTION/BACKGROUND

Non-insulinoma pancreatogenous hypoglycemia syndrome (NIPHS) is a rare cause of endogenous hyperinsulinemic hypoglycemia, distinct from insulinoma, often linked to β-cell dysfunction after bariatric surgery in adults.

CASE

This case report describes a previously well 31-year-old male with recurrent hypoglycemia symptoms following intentional weight loss of 44 kg (120 to 76 kg) from practising ketogenic diet for one year. The patient experienced recurrent episodes of giddiness, palpitations and syncope, with lowest capillary blood glucose levels documented as 1.8 mmol/L. These symptoms emerged after resuming a regular carbohydrate diet, after he developed severe constipation with ketogenic diet. The episodes were erratic but reported to be more common after prolonged fasting.
Initial evaluation revealed a normal HbA1c (4.7%) with normal hemoglobin (16.5 g/dL), normal morning cortisol and renal and hepatic functions. A supervised 72-hour fast demonstrated symptomatic venous hypoglycemia (2.7 mmol/L) at the 36th hour with inappropriately elevated insulin (5.67 μIU/mL) and C-peptide (496 pmol/L) levels, confirming endogenous hyperinsulinemia. Prolonged oral glucose tolerance testing (OGTT) revealed exaggerated insulin secretion (peak insulin: 43.92 mIU/L at 1 hour; glucose: 8.1 mmol/L), followed by non-suppression of insulin (5.65 mIU/L) and C-peptide (1244 pmol/L) at 4 hours despite low blood glucose of 3.5 mmol/L. Pancreatic CT was normal, supporting a diagnosis of NIPHS. Patient's symptoms improved following small frequent meals and avoidance of large amounts of simple carbohydrates.

CONCLUSION

This case highlights NIPHS as a consequence of altered β-cell function following prolonged ketogenic diet, likely exacerbated by rapid dietary carbohydrate reintroduction.

EP_A042

BILATERAL OSTEOPOROTIC FEMUR FRACTURES IN A YOUNG WOMAN: AN AFTERMATH OF EMPTY SELLAR SYNDROME

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INTRODUCTION/BACKGROUND

Empty sella syndrome (ESS) is characterized by the radiological finding of a flattened pituitary gland within the empty sella turcica due to subarachnoid space expansion, commonly associated with hormonal deficiencies. We report a rare case of panhypopituitarism due to primary ESS in a young female who presented with bilateral osteoporotic femur fractures.

CASE

A 38-year-old aboriginal female was first brought to the orthopedic team for persistent right hip pain and a limping gait for several years. There was no prior history of trauma, surgery or irradiation. CT of bilateral hip joints showed generalized osteopenia with non-union bilateral femur fracture. Bone mineral density revealed osteoporosis of the lumbar spine and left radius with Z-score of -4.3 and -6.6, respectively. Further evaluation for secondary osteoporosis revealed short stature with a low BMI of 17 kg/m2. Notably, she has primary amenorrhea and delayed puberty, with Tanner stage 1 breast and pubic hair development. Family history was unremarkable except for one younger sister with short stature. Anterior pituitary hormone profile revealed central hypothyroidism (TSH: 2.05 mIU/L, fT4: 6.7 pmol/L), hypogonadotrophic hypogonadism (serum estradiol <55.1 pmol/L, FSH: 0.3 IU/L, LH <0.2 IU/L), low