Adult E-Poster

EP_A048

HIDDEN IN PLAIN SIGHT: MULTIFOCAL PARAGANGLIOMA IN AN ADOLESCENT WITH HYPERTENSION

https://doi.org/10.15605/jafes.040.S1.056

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INTRODUCTION/BACKGROUND
Pheochromocytomas and paragangliomas (PPGLs) are rare neuroendocrine tumors. The high incidence of multifocality, recurrence and metastatic disease complicates the management of paraganglioma in adolescents.

CASE
A previously healthy 14-year-old male presented with a one-month history of occipital headache associated with blurring of vision. He had no chest pain, dyspnoea, diaphoresis or syncope. There is no family history of hypertension in the young. His mother has hyperthyroidism.

On arrival, his blood pressure was 242/167 mm Hg, heart rate was 127 bpm, and SpO_2 was 100% on room air. His capillary blood glucose was normal at 4.8 mmol/L. Physical examination showed no signs of goitre, cushingoid features, or acromegalic traits. The patient is overweight, with a BMI of 25.6 kg/m². He showed no stigmata of neurofibromatosis. Fundoscopy showed bilateral optic disc swelling and macular edema, consistent with grade IV hypertensive retinopathy.

Electrocardiogram revealed sinus tachycardia with T-wave inversion in lead V2-V6. Laboratory investigations, including complete blood count, calcium and renal profile, were unremarkable. His endocrine workup confirmed a diagnosis of pheochromocytoma with elevated 24-hour urinary normetanephrine (90.75 umol/day, 36.5x ULN) and 3-methoxytyramine (4.02 umol/day, 2.8x ULN).

Adrenal CT imaging revealed a large, lobulated, heterogeneously enhancing mass measuring 5.0 × 6.1 × 5.4 cm (AP × W × CC) along the left margin of the abdominal aorta. The bilateral adrenal glands are normal.

Neck and Thorax CT showed a well-defined, round, homogeneously enhancing lesion at the base of the skull measuring 1.0 × 1.1 × 1.4 cm (AP × W × CC). Therefore, he was diagnosed with paraganglioma.

His blood pressure is currently controlled with three antihypertensive medications, including an alpha blocker. Given his multifocal disease, germline genetic testing is warranted, and functional imaging should be considered preoperatively to exclude metastasis. He was referred to an endocrine center for further management.

CONCLUSION
Pediatric PPGLs are more often extra-adrenal, multifocal/metastatic, and recurrent, likely due to a stronger genetic predisposition. Hence, timely diagnosis is crucial to prevent morbidity and mortality.

EP_A049

INSULIN AUTOIMMUNE SYNDROME OR INSULINOMA? UNRAVELLING THE CAUSE OF HYPERINSULINEMIC HYPOGLYCEMIA IN A PATIENT WITH A PANCREATIC CYST

https://doi.org/10.15605/jafes.040.S1.057

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INTRODUCTION/BACKGROUND
Insulin Autoimmune Syndrome (IAS) constitutes a rare aetiology of non-diabetic endogenous hyperinsulinemic hypoglycaemia, with a prevalence of 4.9–11.7%. We report a case of a 61-year-old Chinese female who was confirmed to have endogenous hyperinsulinemic hypoglycaemia. Subsequent imaging revealed a cystic pancreatic lesion, while insulin autoimmune antibodies (IAA) were mildly elevated. This case highlights the challenge of distinguishing between insulinoma and IAS.

CASE
A 61-year-old Chinese female, with no prior diabetes, presented in April 2024 with symptoms suggestive of Whipple's triad. She experienced both fasting and postprandial hypoglycemia (2.0–3.0 mmol/L) and postprandial hyperglycemia (up to 16 mmol/L). She had no significant drug history except recent glucosamine use two weeks prior. A 72-hour fasting test confirmed endogenous hyperinsulinemia with elevated insulin (245 U/mL) and C-peptide (13.3 ng/mL) at a plasma glucose of 2.6 mmol/L, with a molar insulin-to-C-peptide ratio of 0.4. Sulfonylurea screening was negative, but IAA was mildly elevated at 17.9 U/mL (<2.4).

Pancreatic CT scan revealed a 9 mm non-enhancing hypodense lesion in the pancreatic body, and endoscopic evaluation found a 7 x 5 mm pancreatic cyst. Ga68 DOTATATE

Adult E-Poster

PET-CT showed no uptake, and arterial stimulation venous sampling (ASVS) was negative for insulinoma or nesidioblastosis. PEG precipitation of random insulin indicated low insulin recovery (7.5%), confirming IAA interference. She was started on diazoxide and a low-glycemic diet with small frequent meals. Her hypoglycaemia spontaneously resolved within three months, even after stopping diazoxide prior to ASVS. Given the negative ASVS, positive IAA, and spontaneous resolution, IAS was diagnosed. She was commenced on acarbose 50 mg TDS and remains well, with continuous glucose monitoring showing infrequent hypoglycemia and milder postprandial hyperglycemia.

CONCLUSION
This case underscores the diagnostic complexity of differentiating IAS from cystic insulinoma in a patient with endogenous hyperinsulinemic hypoglycemia, a cystic pancreatic lesion, and elevated IAA.

EP_A050

MINIMALLY INVASIVE MANAGEMENT OF PARATHYROID ADENOMA: A CASE OF SUCCESSFUL THERMAL ABLATION IN A HIGH-RISK ELDERLY PATIENT

https://doi.org/10.15605/jafes.040.S1.058

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INTRODUCTION/BACKGROUND
Primary hyperparathyroidism (PHPT) due to parathyroid adenoma often requires parathyroidectomy. However, surgery may not be feasible in high-risk patients. Thermal ablation techniques, such as microwave ablation (MWA), offer a minimally invasive alternative. We present a case of an elderly woman who was successfully treated with microwave ablation for severe hypercalcemia caused by a parathyroid adenoma.

METHODOLOGY
An 81-year-old semi-dependent female was diagnosed with parathyroid hormone (PTH)-dependent hypercalcemia in 2020 with a calcium level at 3.4 mmol/L (2.2-2.6) and an iPTH level at 69.7 pmol/L(1.96-8.49). Parathyroid ultrasound and 99m Tc MIBI parathyroid scintigraphy confirmed the presence of a right upper pole parathyroid adenoma, measuring 1.7 x 1.1 x 2.4 cm. Preoperative evaluation revealed an ectatic ascending thoracic aorta and aortic arch, causing tracheal deviation and restrictive lung disease, which placed her at high surgical risk.

Initially, she was managed conservatively with cinacalcet 25-50 mg bd and denosumab 30-60 mg every 3-6 months. Unfortunately, her condition worsened despite intensified medical therapy, resulting in frequent hospitalizations due to severe hypercalcemia (calcium >3.5 mmol/L). Her iPTH levels increased to 204.7 pmol/L, and the adenoma grew to 2.1 x 1.9 x 3.1 cm. Given her deteriorating condition, she underwent ultrasound-guided microwave ablation of the adenoma.

Two days after the procedure, her iPTH levels dropped by 80% to 11.3 pmol/L and stabilized between 35–40 pmol/L in the outpatient setting. Her post-procedural calcium level was within the mild hypocalcaemia range (2.8-3.0 mmol), and she no longer needed cinacalcet or pain medication. She experienced significant improvements in her physical function and could engage in static exercise. A follow-up ultrasound one month post-procedure revealed a 56% reduction in the adenoma's volume.

CONCLUSION
Ultrasound-guided microwave ablation is an effective non-surgical treatment for PHPT in high-risk patients. It provides clinically significant improvements, reduces medication requirements, and enhances the quality of life.

EP_A051

WHEN TREATMENT BACKFIRES: SEVERE HYPOTONIC HYPONATREMIA INDUCED BY ANGIOTENSIN RECEPTOR BLOCKERS

https://doi.org/10.15605/jafes.040.S1.059

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INTRODUCTION/BACKGROUND
Angiotensin receptor blockers (ARBs) are commonly used antihypertensive medications. ARBs may cause worsening of renal function and hyperkalemia, necessitating renal profile monitoring after their initiation. We report a case of severe hypotonic hyponatremia in an elderly patient who was started on valsartan.

CASE
A 70-year-old Malay female with underlying hypertension was recently prescribed valsartan 80 mg OD by her primary care (PC) doctor for blood pressure optimization. Notably, she had a history of adrenal insufficiency secondary to