Leydig cell impairment is apparent in men older than 70 years. Age >70 years, BMI, and presence of ill-health need to be considered when interpreting testosterone results. Testosterone concentrations expected in healthy men can also be defined by thresholds below which risks of poorer health outcomes, such as mortality, increase.

EP_A142

A RARE CASE OF CONGENITAL ANORCHIA PRESENTED AS GYNAECOMASTIA IN ADULTHOOD

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INTRODUCTION/BACKGROUND
Congenital anorchia is a rare condition characterised by the absence of testes in a 46,XY individual with a male phenotype. The incidence appears to be 1:20,000 males. The lack of testosterone production will lead to issues with puberty, bone health and fertility.

CASE
A 28-year-old male with no known medical illness presented to us at the age of 21 with absence of secondary sexual characteristics and gynaecomastia since entering pubertal period. A thorough physical examination revealed a male with a height of 171 cm with a BMI of 28.7 kg/m^2 with Tanner 1 pubic hair, and absence of axillary hair and moustache. His male sexual organs were prepubertal and his scrotum was empty. His parents noticed the empty scrotum since his neonatal period but did not seek further medical attention. An MRI was done revealing a micropenis without visualised testes in the abdomen or pelvis. Further hormonal panels showed primary hypogonadism with a very low testosterone level of 0.62 nmol/L (Normal range: 8.6-29). Thyroid function and prolactin were normal. Chromosomal analysis revealed a 46, XY karyotype. He was then started with intramuscular testosterone injection at 22-years-old.

CONCLUSION
The most common cause of congenital primary hypogonadism is sex chromosome aneuploidy, present in Turner syndrome and Klinefelter syndrome. Studies have shown that about 4.5 percent out of 6000 cryptorchid children are anorchid, and 14 percent of them have absence of bilateral testes. A hypothesis of vascular occlusion in early foetal development leading to atrophy of functional testes was made. It is supported by findings of a fibrotic node at the end of vasa differentia in anorchid patients. Congenital anorchia is rarely seen among the male population. It is congenital and presents late to clinical setting if missed during childbirth. Testosterone replacement is essential for secondary sexual characteristics and bone health.

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HURTHLE CELL THYROID CARCINOMA (HTC): A RARE INCIDENCE OF BRAIN METASTASIS

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INTRODUCTION/BACKGROUND
Oncocytic or Hurthle cell thyroid carcinoma is a rare type of carcinoma which occurs in 5% of the population with known thyroid carcinoma. Metastasis to the brain is even rarer with 3% of follicular subtypes reported.

CASE
A 60-year-old female presented with left-sided hemiparesis and slurred speech. She exhibited full consciousness. A cranial CT showed a right frontal lobe intra-axial lesion causing obstructive hydrocephalus. Subsequent MR revealed an enhancing hypointense lesion at the frontoparietal lobe which is suggestive of a glioma. She was referred to the neurosurgical outpatient clinic; however, she experienced a seizure episode and ended up in the emergency department. She was subjected to emergency right craniectomy and tumour excision. Histopathological examination of brain tissue revealed a metastatic carcinoma consistent with a primary thyroid origin. Surveillance CT post-operatively revealed a right thyroid lobe lesion. A biopsy of the right thyroid nodule was performed during the tracheostomy procedure. Histopathological findings were consistent with HTC. A delayed thyroid ultrasound revealed a TIRADS 4 hypoechoic lesion in the right lower pole (1.7 x 2.1 cm). Otherwise, she was clinically and biochemically euthyroid. She underwent whole-brain radiotherapy and was scheduled for total thyroidectomy.

CONCLUSION

This patient was primarily investigated for glioma, but the histopathology report changed the course of investigation and treatment. Histologically, the oncocytic cell is a follicular "derived" thyroid cell which exhibits abundant granular eosinophilic cytoplasm and is positive for TTF1 and thyroglobulin immunostain. Clinical presentation varies from capsular to vascular and/or distant lymph node invasion, and metastatic spread. In this case, we describe the challenges encountered in diagnosing HTC. Brain metastasis of HTC is rare.

The unique presentation as a primary brain tumour with no thyroid nodule or neck swelling delayed the diagnosis. The prognosis of such cases is worse in a high-grade and poorly differentiated disease.

EP_A144

IODINE-131 RESISTANCE IN A CASE OF TOXIC ADENOMA REQUIRING MULTIPLE COURSES OF RAI-131

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INTRODUCTION/BACKGROUND

Hyperthyroidism is a state of hyperactive thyroid gland secreting excessive thyroid hormone causing a constellation of symptoms to multiple organs and systems. Hyperthyroidism can be caused by an autoimmune condition (Graves' disease), inflammation of the thyroid (thyroiditis), or due to functioning thyroid nodules (hot nodule or toxic multinodular goitre).

We report a case of toxic adenoma, who received Iodine-131 four times with a cumulative dose of 69 mCi; however, persistent hyperthyroidism required additional treatment with ATD. Subsequently, she underwent left hemithyroidectomy.

CASE

A 29-year-old female was referred to the nuclear department for radioactive iodine-131 (RAI-131) therapy. She received her first RAI-131 with 15 mCi in September 2020. Due to persistent hyperthyroidism, she received another RAI-131 with 15 mCi in April 2021. Her third RAI-131 with 21 mCi done in January 2022 and fourth RAI-131 with 18 mCi was done in June 2022 due to persistent hyperthyroidism requiring ATD. She had Tc-99 m pertechnetate thyroid uptake scan done with scan findings suggestive of toxic multinodular goitre in left thyroid lobe. She was planned for another RAI-131, however she refused.

Left hemithyroidectomy done in September 2023 with HPE reported as nodular hyperplasia with dominant nodule and cystic degeneration. She developed transient hypothyroidism after surgery requiring levothyroxine and subsequently euthyroidism without any medication.

CONCLUSION

RAI-131 is relatively safe and easy to administer making it the treatment of choice for many causes of hyperthyroidism. Around 10% of patients would require subsequent dose of RAI-131. Failure of RAI-131 for treatment of hyperthyroid is rare, mainly due to inadequate preparation. Some patients have delayed response to RAI-131, up to years after iodine treatment.

EP_A145

NAVIGATING THE CHALLENGES OF UNCONTROLLED THYROTOXICOSIS

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INTRODUCTION/BACKGROUND

Thyrotoxicosis is a condition characterized by the excessive production of thyroid hormones. Commonly presented as Graves' disease, other aetiology includes toxic multinodular goitre or subacute thyroiditis. Therapeutic approaches depend on the aetiology which includes anti-thyroid medications, radioactive iodine, or surgical intervention. We highlight 2 cases with different aetiologies of thyrotoxicosis that remained uncontrolled despite medical therapy and necessitated surgical intervention.

CASE 1

23-year-old female with diffuse goitre that was progressively increasing in size since the age of 15. She presented with classic thyrotoxicosis symptoms. She was confirmed to have Graves' disease and was treated with carbimazole therapy. However, she remained uncontrolled after 2 years despite high dose carbimazole therapy (90 mg/day), lithium (600 mg/day), prednisolone (20 mg/day) and cholestyramine. She finally relented to surgical intervention as her definitive treatment. Her perioperative optimization was equally challenging and the addition of Lugol's iodine a week prior to surgery brought her free T4 levels below 20 pmol/L. Through multidisciplinary collaboration between endocrinologists, surgeons and anaesthetists, she had a successful total thyroidectomy.