

factors and hence, be treated accordingly. Treatment of hyperthyroid patients with liver abnormalities is rather challenging as antithyroid drugs have been associated with liver injury. Various case reports showed remission of hyperbilirubinemia after radioactive iodine therapy. Therefore, radioactive iodine therapy should be offered as early as possible for patients with severe hyperbilirubinemia that is likely due to hyperthyroidism.

EP_A161

BIZARRE THYROID FUNCTION TEST IN A PATIENT WITH MULTINODULAR GOITRE: A CASE REPORT

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INTRODUCTION/BACKGROUND

Multinodular goitres may be accompanied by various thyroid function abnormalities. Assessment of thyroid status and correct interpretation of thyroid function tests (TFTs) is important to ascertain the aetiology.

CASE

A 68-year-old female was referred for re-evaluation of abnormal TFT associated with a huge multinodular goitre. She was seen 3 years ago by a private practitioner due to progressive goitre enlargement since age 30 years. TFTs then showed markedly reduced fT4 at 1.3-3.6 pmol/L (12-22), with normal TSH at 0.3-0.65 μ IU/mL (0.27-4.2). She was started on L-thyroxine 100 ug daily based on these results, but she was only taking it intermittently. At the time of evaluation, there was no sign or symptom of hypothyroidism, but she complained of weight loss and irritability. On examination, she had a huge goitre with no lymphadenopathy. TFTs done showed low fT4, 8.6 pmol/L and TSH <0.005 μ IU/mL. Central hypothyroidism was ruled out by a paucity of signs of hypothyroidism with no accompanying hypopituitarism. Due to the persistent and markedly suppressed TSH (<0.005) but fT4 at a low normal limit, fT3 was assessed and was found to be elevated at 11-16.7 pmol/L (3.1-6.8). L-thyroxine was stopped.

Three months later, a repeat TFT off L-thyroxine still showed a very low fT4 at 1.94 pmol/L, but normal fT3 (5.02 nmol/L) and TSH (0.291 μ IU/mL). SHBG was normal at 52.4 nmol/L (16.8- 125.2) supporting euthyroidism. She remained well and euthyroid on subsequent follow-up with similar TFT but refused FNAC or surgical intervention for her goitre.

CONCLUSION

Low fT4 with normal TSH points towards central hypothyroidism but in patients with goitre and clinically euthyroid, disorders like iodine deficiency and thyroid dysshormonogenesis need to be considered. A T3 measurement should be done. A high T3/T4 ratio may be found in rarer entities such as resistance to thyroid hormone α and has also been reported in follicular thyroid cancer due to increased thyroidal deiodinase activity.

EP_A162

TUBERCULOUS MENINGOENCEPHALITIS MASKING MYXOEDEMA COMA

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INTRODUCTION/BACKGROUND

Myxoedema coma is a rare but potentially lethal complication of extreme hypothyroidism. Despite its low incidence, the mortality rate may reach 60%.

CASE

A 40-year-old male presented with shortness of breath, vomiting, frontal headache and abnormal behaviour for 2 days. He also suffered from fever, chesty cough, and chronic back pain for 2 weeks. He was confused, had unequal pupils, loss of lateral 1/3rd of his eyebrows, and reduced breath sounds bilaterally. Cranial CT scan demonstrated obstructive hydrocephalus necessitating external ventricular drainage. Pus aspirated from a right exudative pleural effusion yielded an ADA value of 68.78U/L. An MRI showed intracranial hyperintense lesions and L3/L4 spondylitis. Diagnosed with disseminated TB, anti-TB treatment with tapering doses of dexamethasone was commenced. He needed tracheostomy for prolonged intubation and had poor GCS recovery. On day 28 of hospitalization, he developed hypotension with a BP of 70/50 mm Hg, warranting noradrenaline infusion.

In retrospect, he had been bradycardic (heart rate ranged 30-55 bpm), hypothermic with a temperature of 35.7°C, and had recurrent hypoglycaemic episodes 7 days prior. Blood gas demonstrated CO₂ retention. Echocardiography did not exhibit pericardial effusion. His TSH level was >48.8 m IU/L, T4 level <3.2 pmol/L, and morning cortisol 163 nmol/L. He was administered IV Hydrocortisone 100 mg including IV Thyroxine 200mcg slow bolus. IV Thyroxine was then reduced to 100 mcg OD for 2 days and subsequently switched to an oral maintenance dose of 100 mcg OD. His

heart rate along with his temperature normalized. He was eventually weaned off inotropic support. Repeat TFTs after 6 days showed T4 of 11.1 pmol/L and TSH of 9 m IU/L.

CONCLUSION

In this case, the presence of TB meningoencephalitis obscured the diagnosis of severe hypothyroidism, resulting in treatment delay. In cases with high clinical suspicion of myxoedema coma, stress doses of hydrocortisone and thyroxine replacement are vital even prior to laboratory confirmation to enhance survival.

EP_A163

CLINICAL AUDIT ON REFLEX-FREE T3 TESTING AT HOSPITAL PUTRAJAYA, MALAYSIA

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INTRODUCTION

Reflex-free T3 (fT3) testing has long been used to optimize the use of laboratory tests in Hospital Putrajaya. It involves the automatic addition of fT3 reflexively when the TSH level is below the normal range and free T4 (fT4) is within normal limits. Excessive reflex testing can lead to an added economic burden. The objective of this audit was to determine the usefulness of reflex fT3 testing using different TSH cut-offs.

METHODOLOGY

Previously, fT3 was performed automatically when TSH was below the normal limits (<0.38 m IU/L) with normal fT4 (7.9 to 14.4 pmol/L). A new workflow was implemented in March where reflex fT3 was only done when TSH is <0.1 m IU/L with normal fT4. This reflex testing is only applied to adults above 18 years old. Patients who underwent reflex fT3 testing three weeks before (Group 1) and after (Group 2) implementation of the new workflow were identified. Patients who would have had reflex fT3 testing with the old workflow but not in the new workflow (TSH 0.1 - 0.37 m IU/L with normal fT4) were also identified (Group 3). Data on patient characteristics were retrospectively collected and analysed.

RESULT

There were 105 patients in Group 1, 66 in Group 2 and 41 in Group 3. The new TSH cut-off of <0.1 resulted in a 38% reduction in reflex fT3 testing. Only 9 (4.25%) out of the 212 patients in the 3 groups had clinical necessity for fT3 testing. The fT3 result changed management in only 6 cases. The other 3 cases were planned for follow-up with repeat tests as clinically euthyroid.

CONCLUSION

Reflex fT3 testing was unnecessary in a large number of cases. The usefulness of reflex fT3 testing in this cohort was very low. Hence, reflex fT3 testing is being discontinued at our centre. Further evaluation is needed to determine strategies that can optimise the ordering of fT3 tests.

EP_A164

WHEN THIONAMIDES ARE CONTRAINDICATED: OUTCOME OF CHOLESTYRAMINE THERAPY IN HYPERTHYROID PATIENTS: A SINGLE TERTIARY CENTRE EXPERIENCE

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INTRODUCTION

Cholestyramine, a bile acid sequestrant, binds to thyroid hormones in the intestine and enhances their clearance. Thionamides are the mainstay in the treatment of hyperthyroidism, however, this may not be an option in the presence of profound hepatitis and agranulocytosis. Here, we aim to assess the efficacy and tolerability of cholestyramine therapy in patients with hyperthyroidism where thionamides are contraindicated.

METHODOLOGY

A one-year retrospective review of patients with hyperthyroidism who were treated with cholestyramine was performed from April 2023 to April 2024.

RESULT

A total of 10 patient medical records (8 females and 2 males) were reviewed. The mean age was 51.7 years old and the median duration of hyperthyroidism was 7.5 years. Graves' disease was the underlying aetiology in 7 cases, and the rest was a toxic multinodular goitre. Six of our patients already had atrial fibrillation, with four of them