

having cardiomyopathy. The reason for conversion from carbimazole to cholestyramine was transaminitis for one patient, and the remaining was due to neutropenia and thrombocytopenia. Seven patients (70%) received Lugol's iodine for not more than 10 days, relying on its Wolff-Chaikoff effect. One patient received prednisolone as an adjunct therapy for hyperthyroidism. The total daily dose of cholestyramine commenced was 12 g given in TDS dosing for a median duration of 1.4 months. Median FT4 level pre and post-cholestyramine therapy were 50.2 pmol/L and 25.5 pmol/L respectively (NR 7.86-14.41),  $p = 0.028$ . The median TSH level was  $<0.005$  m IU/L. We were able to rechallenge six patients (60%) with carbimazole as they showed an improvement in their laboratory parameters. Only two patients underwent subsequent definitive therapy with RAI and thyroidectomy. None of our patients developed any adverse side effects from cholestyramine.

#### CONCLUSION

Our experience demonstrated that in selected cases, cholestyramine may be used as an effective and well-tolerated therapy when first-line options are contraindicated.

## EP\_A165

### THYROTOXIC CARDIOMYOPATHY COMPLICATED BY FULMINANT HEPATIC FAILURE: A CASE REPORT

<https://doi.org/10.15605/jafes.039.S1.176>

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#### INTRODUCTION/BACKGROUND

Thyrotoxic cardiomyopathy with cardiac failure can lead to liver congestion and ischaemic hepatitis. Fulminant hepatic failure secondary to thyrotoxic cardiomyopathy is rare.

#### CASE

We report a 45-year-old woman with strong family history of hyperthyroidism. She presented with palpitations and cardiac failure symptoms for a month. Electrocardiograph showed atrial fibrillation. Echocardiogram revealed a preserved ejection fraction (55%), mid-septal wall hypokinesia, severe mitral and tricuspid regurgitation, with pulmonary hypertension. She had an elevated free T4 (fT4) level of 16.4 pmol/L (7.86-14.41 pmol/L) and free T3 (fT3) level of 7.6 pmol/L (3.10-6.80 pmol/L). TSH receptor antibody was elevated 13.7 IU/L ( $<1.75$  IU/L) consistent with Graves' Disease. She was treated for thyroid storm

and initiated on an anticoagulant. She was discharged with carbimazole 30 mg OD and bisoprolol 2.5 mg OD.

After 10 days, she returned with worsening cardiac failure, high-grade fever and jaundice. Upon admission, the fT4 level was 12 pmol/L. Her liver transaminases were normal except for hyperbilirubinemia secondary to liver congestion. Subsequently, transaminases showed rapid progression of liver failure with peak aspartate aminotransferase (AST) of more than 10,000 U/L, total bilirubin of 481.3 umol/L (5.0-21.0 umol/L), and severe coagulopathy. She required mechanical ventilation due to hepatic encephalopathy. Ultrasonography of the hepatobiliary system showed cholelithiasis with acute cholecystitis. Budd-Chiari Syndrome was ruled out since the hepatic veins were patent. Viral hepatitis was likewise ruled out. She was managed with N-acetylcysteine, diuretics, and second-line anti-thyroid treatment (cholestyramine, hydrocortisone, and Lugol's solution). Her sepsis responded to intravenous meropenem. She was not suitable for liver transplantation due to multi-organ failure after consulting the hepatology team.

#### CONCLUSION

A comprehensive approach involving cardiac evaluation with echocardiogram, assessment of liver dysfunction, and consideration of autoimmune causes of liver failure is crucial in the management of patients with thyrotoxicosis and liver failure. Liver transplant is an option in the management of thyrotoxicosis with fulminant liver failure.

## EP\_A166

### T3 THYROTOXICOSIS IN A PATIENT WITH METASTATIC FOLLICULAR THYROID CARCINOMA

<https://doi.org/10.15605/jafes.039.S1.177>

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#### INTRODUCTION/BACKGROUND

Differentiated thyroid cancers are usually associated with normal thyroid function. Rarely, thyrotoxicosis can develop due to functioning metastatic thyroid carcinoma. We present a case of a male with metastatic follicular thyroid cancer associated with T3 thyrotoxicosis.

#### CASE

A 57-year-old male with underlying multinodular goitre presented with rapidly enlarging neck swelling, heat intolerance, loose stools, weight loss, and left shoulder pain over three months' duration. He exhibited a huge left goitre with right tracheal deviation. Laboratory tests revealed

normal FT4, elevated FT3, and suppressed TSH. Thyroid ultrasound and contrast computed tomography (CT) scan unveiled a large left hemithyroid mass with retrosternal extension and contralateral tracheal displacement. Metastatic lesions were observed in the lungs, pleura, left scapula, cervical, and mediastinal lymph nodes. Needle aspiration of the thyroid mass showed a follicular nodule, while biopsy of the left scapula confirmed metastatic follicular thyroid carcinoma. The patient underwent total thyroidectomy with left modified radical neck dissection. Histopathologic examination revealed widely invasive follicular thyroid carcinoma, with areas of transformation to anaplastic thyroid carcinoma.

#### CONCLUSION

The coexistence of T3 thyrotoxicosis and thyroid cancer, particularly the follicular subtype, is uncommon and warrants careful consideration in clinical practice.

## EP\_A167

### PROPRANOLOL-INDUCED CARDIAC DECOMPENSATION IN THYROID STORM

<https://doi.org/10.15605/jafes.039.S1.178>

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#### INTRODUCTION/BACKGROUND

Propranolol is one of the preferred beta-blocking agents used in thyroid storm. It is highly lipid-soluble and effective in reducing T3 concentration up to 30% if given in high doses. However, only a few cases reported on the side effects of this drug, especially life-threatening complications in thyroid storm.

We reported 4 cases of propranolol-induced circulatory collapse in patients with thyro-cardiac disease who presented with thyroid storm between 2022- 2024.

#### CASE 1

A 28-year-old male diagnosed with Graves' disease developed thyroid storm with cardiac decompensation post-wound debridement. He received carbimazole 30 mg and propranolol 40 mg prior to surgery. The propranolol was withheld following the unfortunate event and he recovered after 3 days.

#### CASE 2

A 32-year-old female with Graves' disease presented with acute heart failure and tachyarrhythmia. She was initially normotensive on arrival; however, she developed circulatory collapse after receiving propranolol 40 mg. She

was managed in the ICU before succumbing to her death due to severe cardiac decompensation.

#### CASE 3

A pregnant female at 34 weeks AOG presented with an impending thyroid storm and premature uterine contraction. She was normotensive and tachycardic on presentation. The condition was complicated by cardiogenic shock and acute heart failure right after propranolol 40 mg administration. She was placed on mechanical ventilation but had an intrauterine foetal loss.

#### CASE 4

A 43-year-old female presented with thyroid storm and unstable atrial fibrillation. She was intubated and received synchronized cardioversion at 150 J together with antithyroid and glucocorticoid drugs. Her condition worsened after she was given oral propranolol 20 mg and she eventually succumbed due to cardiac decompensation.

#### CONCLUSION

Long-acting beta-blockers should be used with caution in thyroid storms with pre-existing thyro-cardiac disease as they can potentially impede the compensatory mechanism and consequently cause hemodynamic instability.

## EP\_A168

### A CHALLENGING CASE OF GRAVES' DISEASE WITH MYELODYSPLASTIC SYNDROME

<https://doi.org/10.15605/jafes.039.S1.179>

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#### INTRODUCTION/BACKGROUND

Graves' disease is an autoimmune condition where antibodies are produced against the thyrotropin (TSH) receptors on the thyroid gland. The condition can be associated with haematologic manifestations.

#### CASE

A 44-year-old male with underlying Graves' disease, Schizophrenia, Chronic Hepatitis B and Myelodysplastic Syndrome presented with a week's history of loose stools and vomiting. On examination, blood pressure was 115/78 mmHg and heart rate was 97 bpm. He had pallor, tremors, sweaty palms, and a small goitre. Thyroid function tests were: TSH <0.001 m IU/L (0.27-4.2), T4 21.9 pmol/L (12.0-22.0), T3 2.65 pmol/L (3.1-6.8). His complete blood count was: Hb 11.7 g/dl (13-17), WBC 3.52 x 10<sup>9</sup>/L (4-10), ANC 1.68 x 10<sup>9</sup>/L (2.0-7.0), Platelets 69 x 10<sup>9</sup>/L (150-410).