Myxoedema Coma - importance of early recognition!

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INTRODUCTION

- **Hypothyroidism is a great mimicker of many common symptoms found at the emergency department.**
- **Myxoedema Coma is considered the most life threatening complication of hypothyroidism with a high mortality rate.**

CASE HISTORY

- **A 70 year old lady, with a background of known primary hypothyroidism presented to the Emergency department with a 1 day history of confusion and drowsiness.**
- **Her past medical history included rheumatoid arthritis.**
- **On presentation her vital signs included HR of 58bpm and temperature 28 degrees celsius.**
- **On examination, she had thin and brittle hair, loss of the lateral third of her eyebrows, and periorbital oedema**

INVESTIGATIONS

- **Blood results revealed an AKI with a creatinine of 213umol/L.**
- **ECG showed prolonged QTc with 1st degree heart block.**
- **Her troponin on admission was 1770ng/L, rising to 2190ng/L, and she was treated medically for an NSTEMI.**
- **Her thyroid function tests on admission showed TSH 236.98milliunit/L (0.30-4.20), free T4 6.1pmol/L (9-23), free T3 2.7pmol/L (2.5-5.7).**
- **Thyroid peroxidase antibodies were strongly positive (646units/ml [0-75]).**
- **Short synacthen test was normal (0mins 342, 30mins 625, 60mins 693nmol/L).**
- **She was resuscitated with warm fluids, bear hugger and broad spectrum intravenous antibiotics.**

RESULTS

- **A diagnosis of myxoedema coma was made and she was treated with IV Liothyronine and oral thyroxine and IV hydrocortisone.**
- **Due to severe obtundation, she required ITU admission with ventilatory and inotropic support.**
- **The dose of liothyronine was carefully titrated, due to risk of causing further ischaemia in view of presentation with NSTEMI.**
- **She made a good recovery, with TFTs on discharge as follows: TSH 1.07milliunit/L, free T4 24.4pmol/L.**
- **She was discharged on oral Levothyroxine 175micrograms, with education on the importance of good medication adherence.**

CONCLUSIONS

- **Myxoedema is an important life threatening manifestation of hypothyroidism, which can result in fluid retention, negative inotropism and chronotropism with cardiogenic shock, stupor and coma.**
- **In severe cases overall mortality is 25-60%.**
- **Prompt recognition and effective management of such patients is key to improving prognosis.**
- **It is also important to consider the need for steroids in stress doses, prior to administration of thyroid hormone replacement, when the possibility of coexisting adrenal insufficiency.**

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