

INTRA-UTERINE DEATH & 'METABOLIC MAYHEM' – A CASE REPORT

BACKGROUND

- 22 years old, nulliparous
- MLC pregnancy
- Cannabis smoker
- BMI 25
- Presented to triage at 36 weeks + 3 days in advanced labour.
- 4 day history of abdominal pain, epigastric pain, headache, visual disturbances, reduced urine output, heartburn, nausea and vomiting
- No history of alcohol intake or IV drug use
- No recent travel/ recent illnesses

CLINICAL PICTURE

- PR – 94/min
- BP -156/104 mmHg
- RR – 22/min, SpO2 – 97%
- Temperature – 36.7 deg C
- Appeared icteric
- Reflexes normal, no clonus
- Local examination- Vertex visible on perineum
- Ultrasound – No fetal heart beat detected.
- **Intra-uterine death** confirmed by 2 doctors.
- Stillborn male infant born by SVD with birth weight 2280g (< 5th percentile).

IMMEDIATE MANAGEMENT

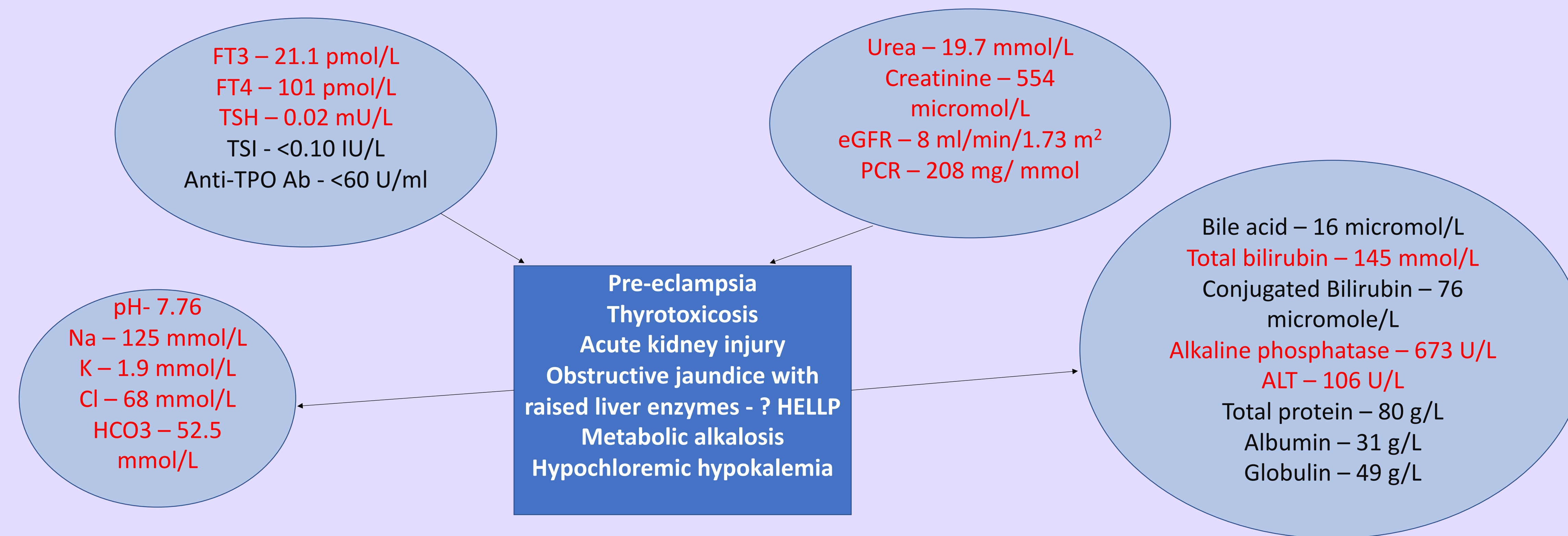
- IV access
- Oral antihypertensives given
- VBG and full blood work done for IUD.
- Bladder catheterised
- MDT involvement with anaesthetics and intensivists
- Transferred to ICU for supportive care as blood results were highly deranged

AT ICU

- GCS – 15/15
- CVS – Ejection systolic murmur+
- RS – B/L air entry +, no added sounds
- P/A – soft, non-tender, uterus well contracted
- Lochia - NAD
- Poor urine output: 0-10ml/hr
- No headache or blurred vision

BLOODS ON ADMISSION

Hb- 123 g/L
WBC – 11.4
Platelet – 411 x 10⁹/L
CRP – 111
Creatine kinase – 371 U/L
LDH – 405 U/L
Urate – 1601 micromol/L
Procalcitonin – 0.60 mcg/L
RBS – 5.9 mmol/L
Fibrinogen – 6.7 g/L
Ca – 2.19 mmol/L
Mg – 0.87 mmol/L
Vitamin B12 – 1549 ng/L
Folate – 2.6 mcg/L
Ferritin – 22 mcg/L



MANAGEMENT

- Following 2 days on ICU, she was transferred to HDU on labour ward as there was improvement in laboratory investigations through supportive treatment.
- After 7 days of admission, her blood tests steadily improved following treatment with anti-hypertensives and close monitoring.

INVESTIGATIONS PRIOR TO DISCHARGE

Hb- 94 g/L
Total bilirubin – 33 micromol/L
ALP – 223 U/L
ALT – 26 U/L
Urea – 5.4 mmol/L
Creatinine – 109 micromol/L
eGFR – 55 ml/min/ 1.73m²
TSH – 0.01 mU/L
FT4 – 22.1pmol/L
Na – 139 mmol/L
K – 4.7 mmol/L
CRP <10

OUTPATIENT FOLLOW UP

- She was subsequently discharged with antihypertensives, VTE prophylaxis and iron supplements.
- She had follow up with GP in 1 month for repeat bloods , endocrinologist in 1 month and for debriefing with obstetric consultant in 3/12.
- Her repeat bloods at 1 month was completely normal including a viral screen with the only abnormality being positive for **Parvovirus IgM and IgG**.
- Placental histology was normal with no evidence of funisitis or chorioamnionitis.

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ENDOCRINOLOGIST

- No H/O thyrotoxic symptoms like tremors, palpitations, diarrhoea, tachycardia
- No previous history of thyroid disease or autoimmune disease
- As the patient did not look clinically hyperthyroid and TSI/Anti-TPO antibodies are negative, treatment with steroids or carbimazole was withheld.
- Weekly TFTs, for follow up in endocrinology clinic

ICU INTENSIVIST + ANAESTHETIST

- Arterial line
- Fluid restriction
- Electrolyte replacement
- VTE prophylaxis
- ECG

GENERAL SURGEONS

- Ultrasound liver requested due to right upper quadrant abdominal pain which showed inflammation of gall bladder wall suggestive of cholecystitis.
- Treat with IV fluids, antibiotics and low fat diet.
- CT Abdomen Pelvis when eGFR improves.

Multidisciplinary Management

HEPATOLOGIST

- Continue antibiotics for cholecystitis.
- Repeat USS Abdomen in 2/12.
- If no concerns on USS, no need for follow up in UGI clinic.

BEREAVEMENT TEAM

- Counsellor for postmortem examination but declined by patient.
- Consented for placental histology examination.

HAEMATOLOGIST

- Prophylactic dalteparin dose reduced to 2500 IU in view of poor renal function.
- Recommend daily Anti-Xa factor levels and proceed with low dose dalteparinif less than 0.1 U/ml
- Plan for thrombophilia screen at a later date.

DISCUSSION

1. Has the thyrotoxic crisis led to IUD or has the IUD unmasked the thyrotoxic picture?
 2. While the clinical symptoms and deranged liver function tests suggest pre-eclampsia, could pre-eclampsia be secondary to the thyrotoxic picture?
 3. Is the metabolic mayhem due to history of vomiting or secondary to thyrotoxicosis?
- No clear working diagnosis prior to discharge
 - Pre-eclampsia seems to be the main culprit for her acute deterioration.
 - There are associations in literature of acute thyroid dysfunction with pre-eclampsia ^{1,2}.
 - However, there are no published cases of acute transient hyperthyroidism associated with pre-eclampsia, especially with no clinical signs or symptoms of hyperthyroidism.

CONCLUSION

- Management of acutely deteriorating obstetric patient needs early multi-disciplinary input.
- Defining a diagnosis/ differential diagnosis, once the patient recovers is of utmost importance for ongoing management as well as for future pregnancy plans.
- It is a challenge to discuss sad events and prognosis for future pregnancies with a patient with no clear aetiology.

REFERENCES

1. Saroyo YB, Harzif AK, Anisa BM, *et al*. Thyroid storm in the second stage of labour: a case report. *BMJ Case Reports CP* 2021;**14**:e243159.
2. Mahboubbeh Hajifoghaha et al. Association of thyroid function test abnormalities with pre-eclampsia: a systematic review and meta-analysis. *BMC Endocrine disorders*, September 2022, 240 (2022)