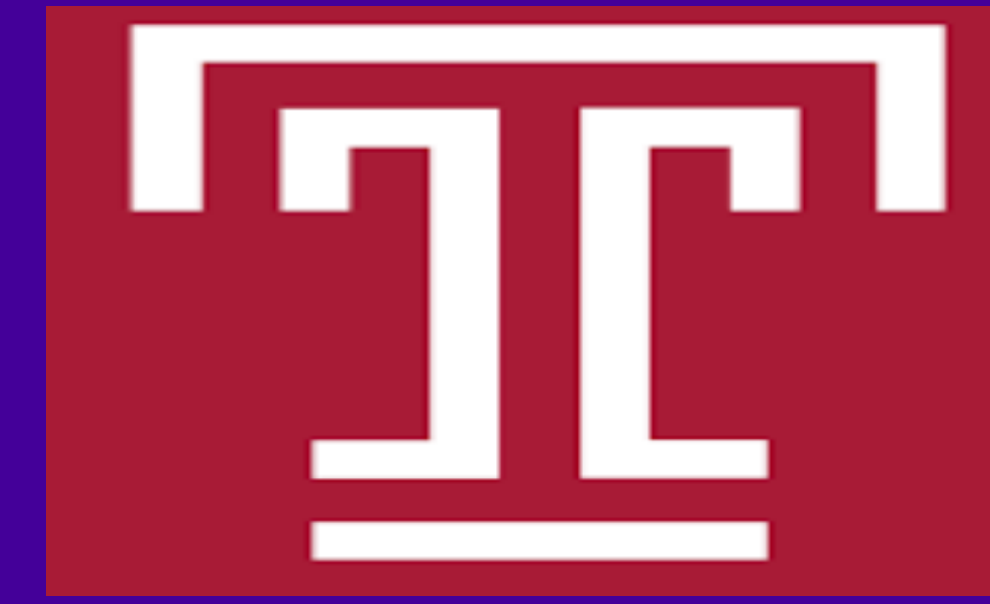


Myxedema coma or uremic coma?



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INTRODUCTION:

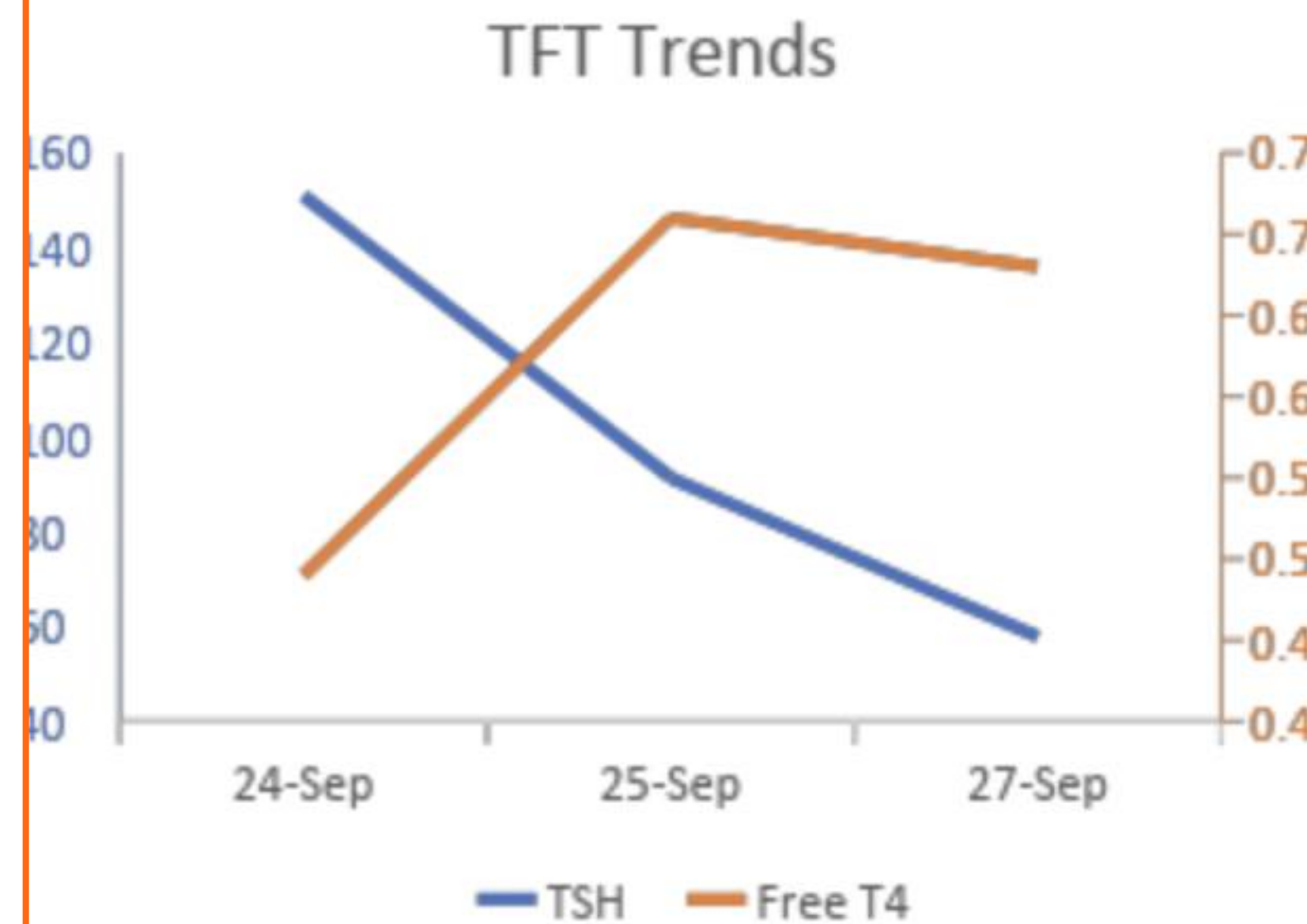
- Myxedema coma is a life threatening, endocrine emergency with a high mortality rate.
- It poses a diagnostic challenge due to its rarity and its overlapping presentation with other commonly seen critical conditions.
- We report a case of myxedema coma whose diagnosis was confounded by untreated ESRD thought to be causing uremic coma and discuss implications of hypothyroidism in ESRD.

CASE DISCUSSION:

- A 60-year-old female with PMH of ESRD on hemodialysis (HD), autoimmune hypothyroidism, seizure disorder presented with shortness of breath and swelling of legs.
- On exam, she was lethargic with pedal and periorbital edema, bradycardic and hypothermic. EKG showed QTc prolongation. Notable laboratory workup in Table 2.
- Her presentation was attributed to missed HD causing uremic encephalopathy for which she underwent emergent HD followed by repeat HD the next day. BUN and Creatinine improved significantly; however mental status worsened. Thyroid function tests are reported in Table 1.
- Myxedema score was 60 (1).
- She was treated with 100 mg IV Hydrocortisone followed by 200 mcg IV LT4. Mental status improved to baseline over the next few days.
- She was discharged on 200 mcg oral LT4 and Hydrocortisone 15 mg AM/10 mg PM with planned outpatient ACTH stimulation test.

Lab	9/24/20	9/25/20	9/27/20	Normal Range
TSH	151 m(iU)/L	91.5 m(iU)/L	57.9 m(iU)/L	0.4-4.5 m(iU)/L
Total T3	16 ng/dL	18.2 ng/dl	19.5 ng/dl	60-180 ng/dL
Free T4	0.49 ng/dL	0.71 ng/dl	0.68 ng/dl	0.89-1.76 ng/dL

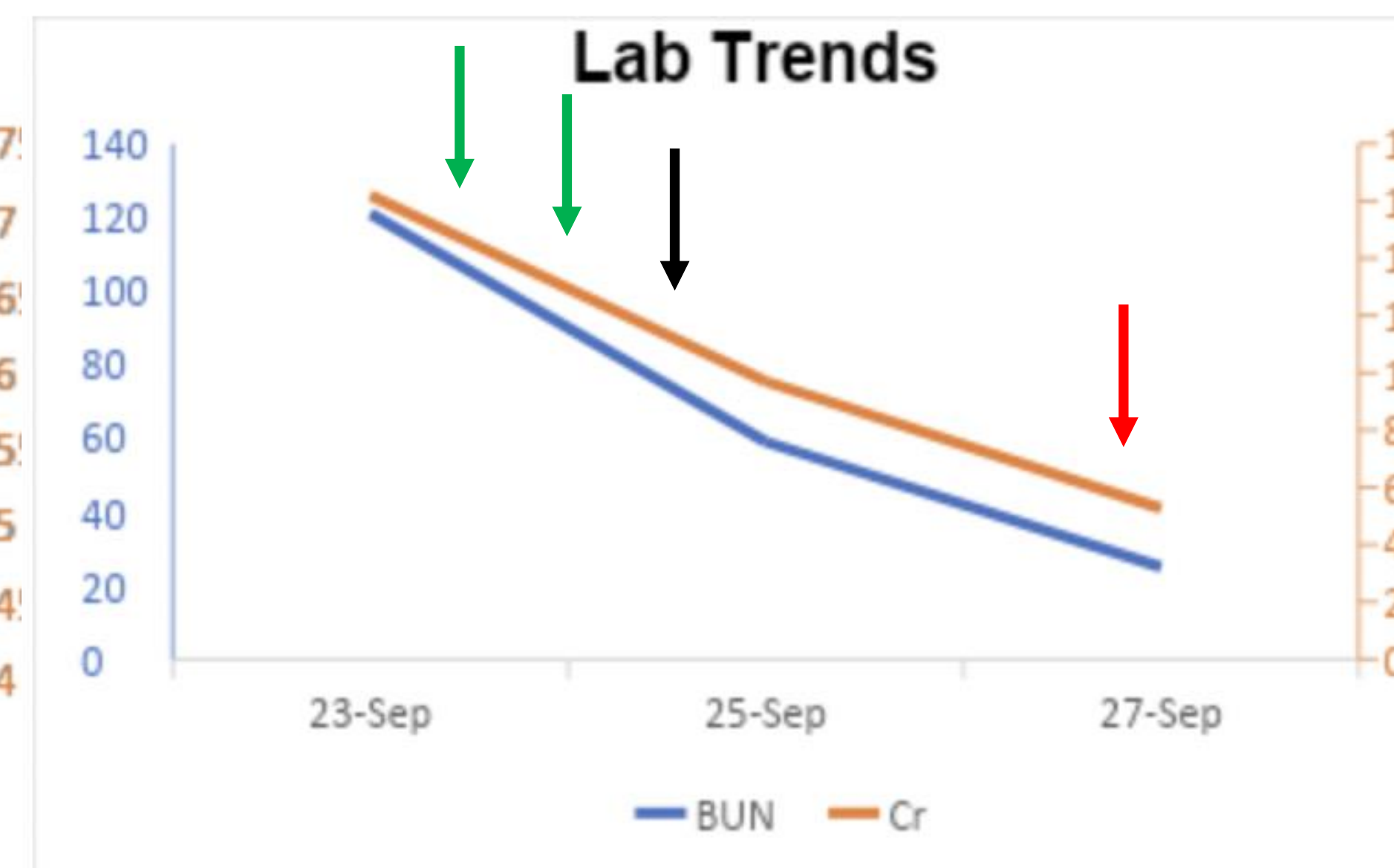
Table 1: Thyroid function tests during the admission.



Graph 1: Thyroid function tests trends throughout admission.

Lab	9/23/20	Normal Range
BUN	121 mg/dL	8-20 mg/dL
Creatinine	16 mg/dL	0.6-1.2 mg/dL
Potassium	7 mmol/L	3.5-5.2 mmol/L
Random Cortisol	8 mcg/dL	

Table 2: Notable laboratory data on admission.



Graph 2: Laboratory trends throughout admission. Green arrows represent when patient received dialysis. Black arrow represents when patient received IV levothyroxine. Red arrow represents the patient's mental status improvement.

CONCLUSION:

- Hypothyroidism is highly prevalent in ESRD patients as the metabolism of thyroid hormones is altered in kidney disorders (2).
- Hypothyroidism is a plausible cardiovascular risk factor thereby causing increased mortality in ESRD patients (3).
- Diagnosis of myxedema coma can be challenging as the presenting symptoms are also seen in common critical conditions such as sepsis, stroke, shock, intoxication or renal failure as in our case.
- While myxedema coma is primarily a clinical diagnosis, diagnostic scoring criteria can assist with predicting the probability of the diagnosis (1).
- Myxedema coma should be considered in the differential diagnosis of a critically ill patient with renal failure who is not improving. Thyroid function testing at presentation can be critical to a patient's prognosis.

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