A Subtle case of Myxedema coma or decompensated hypothyroidism

Tahrima Ferdous[1*], Halah Alfatlawi[1]

[1]Resident, Division of Internal Medicine, Department of Medicine, 3000 Arlington Avenue, The University of Toledo, Toledo OH 43615

Email: Tahrima.Ferdous@utoledo.edu

Received: 2024-08-31

Accepted: 2024-09-15

Published: 2025-06-30

Email: tahrima.ferdous@utoledo.edu

Introduction: Decompensated hypothyroidism, formerly known as myxedema coma, is an endocrine emergency associated with profound thyroid dysfunction (1). The term “myxedema coma” is misnomer believing that they must either have edema or appear comatose to have this condition (2). It should be considered in patients who have altered mental status may include confusion, lethargy, stupor, or coma with bradycardia, hypotension, and/or hypothermia. The most common precipitating factor is infection such as pneumonia, urinary tract infections, and septicemia (3,4).

Case Presentation: A 53-year-old female with H/O total thyroidectomy who presented with history of dizziness, lethargy, generalized weakness, body aches, shortness of breath, chills, and urinary frequency. Initial workup significant for Cr 1.37, eGFR 46, TSH 80, free T4 <0.25, CK 1091, total cholesterol 412, LDL 292, UA positive for moderate LE. According to diagnostic scoring of myxedema coma (Popoveniuc G, ChaNdra T, Sud A, et al. Endocr Pract 2014; 11:1-36.) a score greater than 60 is highly suggestive of myxedema coma. Patient scored 75. These include abdominal pain, precipitating factor UTI, bradycardia HR of 52, EKG changes, hypotension and decrease in GFR. She received a dose of IV hydrocortisone 100 mg for hypotension, a dose of 400 mcg IV levothyroxine followed by 100 mcg and Keflex for UTI. She had significant clinical and biochemical improvement within 3 days of treatment. Probable causes of hypothyroidism such as medication noncompliance, incorrect pill technique, drug interactions and malabsorption were ruled out. She was discharged on 150 mcg of oral Tirosint daily.

Conclusions: Decompensated hypothyroidism is a dangerous condition with the potential for significant morbidity and mortality. Due to its similarities with other common conditions and subtle clinical manifestations severe hypothyroidism can be difficult to detect. Treatments should be given with adrenal and thyroid hormone supplementation and treatment of the inciting event without delays.

Keywords: Endocrine, Hypothyroidism

10.46570/utjms-2025-1414

References

1. Nicoloff John T. *Thyroid Storm and Myxedema Coma*. Medical Clinics of North America. 1985 Sep. **69**(5). doi:10.1016/s0025-7125(16)310021.

2. Jordan, R.M. *Myxedema coma*. *Pathophysiology, therapy, and factors affecting prognosis*. Med Clin North Am, 1995. **79**(1): pp. 185-194

3. Rodríguez, E. Fluiters, L.F. Pérez-Méndez, R. Luna, C. Páramo, R.V. García- Mayor. *Factors associated with mortality of patients with myxoedema coma: prospective study in 11 cases treated in a single institution*. J Endocrinol, 2004.**180**(2):pp. 347-350.

4. Yamamoto, T., Fukuyama, J., Fujiyoshi, A. *Factors associated with mortality of myxedema coma: report of eight cases and literature survey*. Thyroid, 1999. **9**(12):pp. 1167-1174.

5. Popoveniuc, G., Chandra, T., Sud, A., Sharma, M., Blackman, M.R., Burman, K.D., Mete, M., Desale, S., Wartofsky, L. *A diagnostic scoring system for myxedema coma*. Endocr Pract, 2014 Aug. **20**(8):pp. 808-17. doi:10.4158/EP13460.OR

