

# Myxoedema coma: a forgotten presentation of extreme hypothyroidism

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## DESCRIPTION

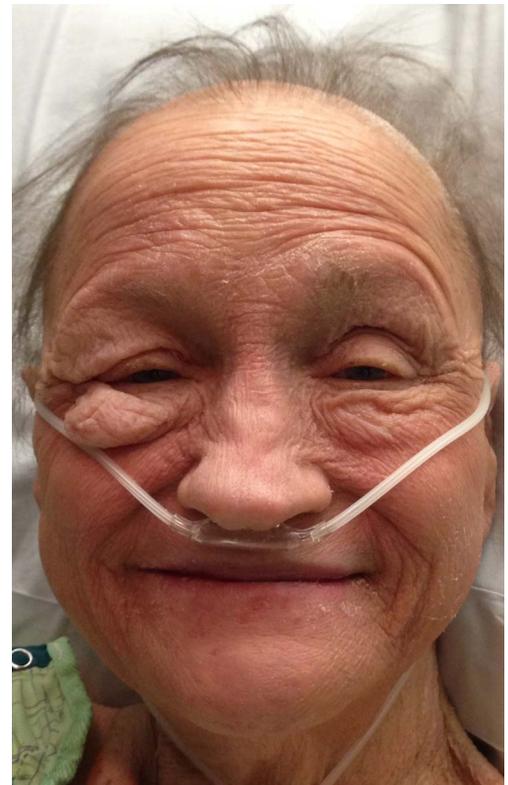
A 66-year-old woman presented to the emergency department after being found unconscious in her home. She lived alone and had no contact with the healthcare system for the past 20 years. On presentation, her vital signs included a temperature of 31.2°C (88.2°F), heart rate of 46 bpm and blood pressure of 109/64 mm Hg. On examination, she had thin and brittle hair, loss of the lateral third of her eyebrows, macroglossia and doughy periorbital oedema (figure 1). Laboratory data revealed a thyroid-stimulating hormone of 131.6  $\mu$ IU/mL. The patient was diagnosed with myxoedema coma. She was started on intravenous hydrocortisone and intravenous levothyroxine. Over the next 3 weeks, the patient regained consciousness, symptoms improved and the myxoedema resolved (figure 2). Four weeks after admission, she was discharged home on oral levothyroxine 125  $\mu$ g/day and continues to do well on this regimen.

Myxoedema coma, the extreme manifestation of hypothyroidism, is exceedingly rare due to the widespread availability of thyroid-stimulating hormone assay. It is an endocrine emergency associated with a high mortality rate. The hallmark presentation of myxoedema coma includes decreased mental status and hypothermia. Associated features include bradycardia, hypotension and hypoglycaemia. Physical findings in myxoedema coma include the classic myxoedematous face, which is characterised by generalised puffiness, macroglossia, ptosis and periorbital oedema, and coarse, sparse hair,<sup>1</sup> as seen in our patient. The name 'myxoedema coma' is somewhat of a misnomer, as patients frequently present with altered consciousness rather than coma.<sup>2</sup>

Treatment includes therapy with intravenous levothyroxine. Concurrent therapy with hydrocortisone should be administered until adrenal insufficiency has been ruled out. Patients with myxoedema coma should be admitted to an intensive care unit. Circulatory collapse requiring pharmacological intervention or resuscitation and respiratory failure requiring mechanical ventilation are common complications.<sup>1</sup>



**Figure 1** Photograph on the day of admission demonstrates classic myxoedema findings, including periorbital oedema, sparse hair, loss of the lateral third of the eyebrows and macroglossia.



**Figure 2** Photograph after 3 weeks of intravenous levothyroxine replacement therapy.



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## Learning points

- ▶ Myxoedema coma may present with the classic myxoedema facies characterised by macroglossia, ptosis and periorbital oedema, however, not all patients exhibit the full list of classic findings, and a coma is not required for diagnosis.
- ▶ Treatment begins with intravenous levothyroxine and intravenous hydrocortisone until associated adrenal insufficiency is ruled out.
- ▶ Myxoedema coma has a significant mortality rate but early recognition and clinical diagnosis may save the patient's life.

**Competing interests** None declared.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

## REFERENCES

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- 2 Gupta KJ. Myxoedema coma: a sleeping giant in clinical practice. *Am J Med* 2013;126:e3–4.

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