Adrenal crisis precipitated by Thyroxine treatment.
A case of concurrent Primary adrenal insufficiency and Primary hypothyroidism

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Introduction
Primary adrenal insufficiency is an endocrine disorder characterised by cortisol and aldosterone deficiency, caused by destruction of the adrenal cortex. Adrenal crisis is a medical emergency, characterised by symptoms including nausea, vomiting, hypoglycaemia and hypovolemic shock. An adrenal crisis can be precipitated by infection, trauma or as in this case thyroxine treatment.

Case Summary
A thirty-year-old female presented to AMU with four week history of symptoms including lethargy, headaches, dizziness, vomiting and weight loss. Her General Practitioner saw her three weeks prior to this presentation. Bloods taken at this time showed an elevated TSH and mild hyponatraemia. Levothyroxine treatment was commenced with some improvement until a few days before admission.

At the time of admission to AMU, she was found to be hypotensive, tachycardic and dehydrated. Blood chemistry showed hyponatraemia, hyperkalaemia, low random cortisol and hypoglycaemia. A diagnosis of adrenal crisis precipitated by thyroxine treatment was made. Treatment was commenced with intravenous hydrocortisone, fluids, glucose and subsequent mineralocorticoid replacement. With this treatment and close monitoring on the unit, the patient recovered well and was discharged four days after admission.

Figure 1 Observations on admission

Figure 2 The patients increased skin pigmentation

Conclusion
This case illustrates how an adrenal crisis in undiagnosed Primary adrenal insufficiency can be precipitated by thyroxine treatment. Having one autoimmune condition can increase the chance of developing a second but rarely do they happen simultaneously. It also highlights the importance of identifying and treating underlying adrenal insufficiency first.

References