A Cortisol Crisis

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Background
Cushing's syndrome is a life-threatening condition associated with debilitating morbidities and increased mortality. Diagnosis and effective biochemical control can improve quality of life and longevity.

Case Presentation
A lady in her forties with metastatic neuroendocrine malignancy was admitted to hospice from the acute hospital setting for symptom management. Her recent hospital stay was complicated by sepsis and pulmonary emboli. Chemotherapy was suspended due to deteriorating performance status. On admission to the hospice, she reported symptoms of anxiety, insomnia, reduced concentration and had disabling peripheral oedema. She was cushingoid in appearance. She had no history of recent steroid use. She was hypokalaemic at 2.7mmol/L (normal range: 3.5-5.1mmol/L) with an elevated fasting glucose at 9.4mmol/L(<6.1mmol/L). Albumin was normal. Following transfer to the hospice she became acutely unwell with pulmonary oedema.

The clinical and biochemical profile was suggestive of Cushing’s syndrome. A 24hr urinary free cortisol was elevated at 4712nmol/24hrs (0-146nmol/24hrs). A urinary potassium was high at 89nmol/L. Early morning serum cortisol and concurrent plasma ACTH were elevated at 3300nmol/L(300-500nmol/L) and 51.1pmol/L(1.1-13.2pmol/L) respectively.

Management & Outcomes
Treatment involved anti-hypertensives and potassium replacement. Metyrapone was commenced to inhibit adrenal steroid synthesis and was titrated against biochemical response, resulting in a correction in serum potassium and glucose. Fluid overload resolved with a weight reduction of 10kg and blood pressure normalised. Her anxiety and cognition improved, resulting in improved quality of life and performance status.

Discussion
In a hospice setting, diagnosis and active management of Cushing’s syndrome improved this patient’s well-being. The risk of acute complications was reduced, in particular life threatening sepsis, electrolyte abnormalities, glucose intolerance, hypertension and further thromboembolic events.

Learning Points
Cushing’s Syndrome is a potentially life-threatening condition that can be associated with neuroendocrine malignancy. Treatment of this complication can improve the patients’ length and quality of life.

Conclusion
We present the case of a lady with Cushing’s syndrome, secondary to ectopic ACTH production, from a neuroendocrine tumour, who has responded to therapy.

This case highlights the importance of thorough clinical assessment and active medical management in hospice.

References