

Diagnostically difficult Cushing's syndrome in a pharmacy student

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Twenty-two years old pharmacy student was urgently referred from primary care with a history of recent weight gain of 15 kg and an elevated 24 h urinary free cortisol (UFC) of 4517 nmol/l (<330). Clinically she described increasing hirsutism, low mood, loss of libido and symptoms suggestive of proximal myopathy.

Her past medical history included recurrent low impact wrist fractures, asthma, PCOS, depression and epilepsy.

On examination her BMI was 34 kg/m² with abdominal striae, hirsutism, interscapular and nuchal fat pads, acanthosis nigricans and proximal myopathy.

She was admitted urgently for a full Cushing's workup. She had two 24 h UFC measurements which were 5633 and 3401 nmol/l respectively. Surprisingly her 0900 h and midnight cortisol levels were normal, with continuously undetectable ACTH levels. She also had normal diurnal variation in her cortisol secretion. She went on to have a high dose dexamethasone suppression test which showed complete suppression of serum cortisol (<10 nmol/l) by day 3. A low dose dexamethasone suppression was not done as she was on anti-convulsant medication. Her CT adrenals and MRI pituitary were also normal.

Because of the discrepancies in these tests we wondered if she had factitious Cushing's syndrome and her 24 h urine sample was sent for further analysis. This showed that the sample contained prednisolone, confirming our suspicion.

This case illustrates the complexities that arise when dealing with patients who have access to prescription drugs. This patient had classical clinical features of Cushing's syndrome probably due to exogenous steroid use, but more importantly her urine cortisol results were also high as she managed to add prednisolone to the urine sample. A high index of clinical suspicion and extensive biochemical testing may be needed in this situation especially when the initial results are discordant.