A case of steroid induced adrenal insufficiency  
D K Sennik, J Clark, K Foster and S Zachariah  
Surrey & Sussex Healthcare NHS Trust, Surrey

Case History:  
Mr FH is a 76 year old gentleman who was referred to Endocrinology clinic by his General Practitioner with fatigue and lethargy. He was diagnosed with Ulcerative Colitis (UC) in 1966. He had been taking prednisolone 15mg daily for many years. This dose was usually increased every few months due to exacerbations of his UC. Trials of steroid sparing agents including mesalazine had resulted in diarrhoea and had therefore not been tolerated well.

Mr FH had previously had his dose of prednisolone decreased below 15mg and had become more tired with muscle cramps, dizziness and loss of energy. These symptoms were relieved by increasing the dose of prednisolone back to 15mg. His alcohol intake was 63 units per week of wine.

On examination he had plethoric facies but no other signs of Cushing’s syndrome. Blood pressure was 140/80.

Investigations and method:  
Blood tests including urea and electrolytes, 9am cortisol and glucose  
Short Synacthen Test  
DEXA scan

Results and treatment:  
Na  142 mmol/l  Glucose  5 mmol/l  
K  4.4 mmol/l  Adjusted Ca  2.26 mmol/l  
Urea  4.7 mmol/l  TSH  4.37 mIU/l  
Creat  121 umol/l  Free T4  15.1  
FBC normal (except MCV 99 fL)

9am Cortisol  290 nmol/l  
Short Synacthen Test: Cortisol 333 at time 0, 403 at time 30 mins and 430 nmol/l at time 60 mins.  
DEXA T score 2.2

Conclusions and points for discussion:  
Adrenal insufficiency secondary to long term steroid use was diagnosed on the basis of the patient’s history, symptoms and suboptimal cortisol response to short synacthen test. The patient was advised that he should not stop his steroid dose suddenly and that if he were ever unwell and unable to take his steroids orally he should be given a parenteral dose. In order to treat the adrenal suppression we advised that the patient should decrease his prednisolone dose to 10mg for two weeks and then further decrease the dose to 7.5mg daily. We would then review his symptoms in clinic and repeat blood tests. After three months the patient did re-attend clinic but had unfortunately been unable to tolerate the decrease in prednisolone dose because of symptoms of lack of energy and tiredness and had increased his dose back up to 15mg.

Discussion points:  
How would you manage this patient?  
What is the prevalence of steroid induced adrenal suppression?  
What is an adequate replacement dose?