Clinical Medicine 2012, Vol 12, No 6: s63

Self-assessment questions: Targeting endogenous glucocorticoids in degenerative disease

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1 Obesity is associated with:

(a) Type 2 diabetes, dyslipidaemia and hypertension in people with Cushing's syndrome
(b) Increased levels of cortisol in serum
(c) Enhanced clearance of cortisol
(d) Impaired suppression of cortisol in the dexamethasone suppression test
(e) Normal negative feedback control of cortisol, as assessed by the combined receptor antagonist stimulation of the hypothalamic–pituitary–adrenal (HPA) axis (CRASH) test

2 With regard to 11β-hydroxysteroid dehydrogenase type 1 (11β-HSD1):

(a) It is responsible for extra-adrenal production of cortisol
(b) It regenerates cortisol from metabolically inert cortisone in the kidney
(c) It is upregulated in the adipose tissue in obese people
(d) Its activity results in inhibition of angiogenesis after myocardial infarction
(e) It increases insulin sensitivity in skeletal muscle

3 Cognitive function:

(a) Is often impaired in people with Cushing's syndrome
(b) Declines more rapidly with age in mice with brain-specific overexpression of 11β-HSD1
(c) Is reduced by intracerebroventricular infusion of glucocorticoid antagonists
(d) Is enhanced in young 11β-HSD1 knockout mice relative to wildtype counterparts
(e) Can be improved with 11β-HSD1 inhibition in humans

4 Inhibition of 11β-HSD1:

(a) Has not been demonstrated to affect glycaemic control in patients with type 2 diabetes
(b) Causes significant weight gain
(c) Results in worsening of dyslipidaemia in patients with type 2 diabetes
(d) Reduces levels of cortisol in serum
(e) Results in increased adrenal production of androgens

Answers to these self-assessment questions can be found on page s92.