Correct answers to CME questions in September 2007 issue

1. b Cushingoid features and unequivocally elevated urinary excretion of cortisol confirm the diagnosis of Cushing's syndrome. Therefore, a 1mg overnight dexamethasone suppression test is unnecessary. The normal plasma level of ACTH is inappropriate for the elevated serum cortisol level, and suppression of serum cortisol with high-dose dexamethasone strongly suggests an ACTH-producing pituitary adenoma (Cushing disease). The next step should be magnetic resonance imaging of the pituitary gland.

2. c Hyponatremia with hyperkalemia always suggests adrenal insufficiency (Addison disease). Fatigue, weakness, hypotension, tanned skin, anaemia, azotemia, and hypoglycemia are consistent with this diagnosis. The diagnosis is made when the low basal serum cortisol level does not increase after the administration of adrenocorticotropic hormone (ACTH).

3. e Regardless of their size, all adrenal masses should be evaluated for hormone over-production. Indications for surgical removal of an incidentaloma include evidence of malignancy and abnormal hormone production. Adrenal masses that are 6 cm or larger have a 25% chance of being malignant; masses smaller than 4 cm have a less than 2% chance of being malignant. Masses that are larger than 6 cm and those that show growth should be removed surgically.

4. d Hypokalaemic alkalosis with hypertension strongly suggests Conn syndrome. The ratio of plasma aldosterone to plasma renin activity is a useful screening test for primary hyperaldosteronism. An elevated ratio (>20) in a patient with an aldosterone level of greater than 16 ng/d is diagnostic. If the ratio is less than 10, causes of secondary aldosteronism should be sought, including renovascular hypertension, diuretic use, a renin-secreting tumour, coarctation of the aorta, and accelerated hypertension.

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