Cushing's syndrome diagnosis

Due to high morbidity and mortality of untreated hypercortisolism, a prompt diagnosis is essential.

Cushing's syndrome is usually easy to diagnose clinically owing to its characteristic features.

Laboratory tests

8 A.M. cortisol is the best test for hypocortisolism (e.g. to look for pituitary insufficiency); 24-hour urine free cortisol is the best test for hypercortisolism

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Morning and midnight serum cortisol levels

24h urine free cortisol excretion

11 PM salivary cortisol: this is the time of the usual cortisol nadir. Test must be run at NIH approved lab. Accuracy is as good as low-dose Dexamethasone suppression test

Serum cortisol levels after low (1 mg) and high (8 mg) dexamethasone

The dexamethasone suppression test (DST) is used to assess adrenal gland function by measuring how cortisol levels change in response to an injection of dexamethasone. It is typically used to diagnose Cushing's syndrome.

Plasma ACTH and serum cortisol levels after Desmopressin stimulation test [1].

Magnetic resonance imaging (MRI)

Anatomical localization of source of excess ACTH Cushing's disease can be quite challenging. Sometimes, it becomes very difficult to differentiate ectopic ACTH source from Cushing's disease [2] [3].

Subsequent to the diagnosis of ACTH-dependent Cushing's syndrome, the next step involves anatomical localization of the source of the ACTH secretion. Various biochemical and radiological techniques have been established to help in localization of the neoplastic lesion. Radiological techniques including computed tomography (CT)/magnetic resonance imaging (MRI) have poor sensitivity (around 60%) [4].

Salivary cortisol test

see Salivary cortisol test

References

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