

Cushings vs. addison research paper example

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The adrenal glands sit on top of the kidneys; anatomically it is composed of an outer cortex and an inner medulla. The cortex produces the three major steroids 1. Corticosteroids, 2. Mineralocorticoids, and 3. Adrenal androgens. An excess amount of cortisol in the body is known as Cushing's syndrome; deficiency of cortisol is known as Addison's disease.

Symptoms of Cushing's include fat redistribution, skin striae, osteoporosis, hypertension, menstrual changes in women, erectile dysfunction in men, and cognitive disturbances. Whatever the cause of Cushing's syndrome the end result is an increase in cortisol secreted by the adrenal. In most cases, it is due to a pituitary ACTH secreting tumor, and in this case it is known as Cushing's disease. Other reasons for the features of Cushing's syndrome include, bilateral adrenal hyperplasia and an ectopic secretion of ACTH such as in the case of some cancers (Nieman, 2013).

The first step in diagnosing a patient with Cushing's includes establishing the presence of hypercortisolism. The best initial test in this case is a 24-hour urine cortisol, if it is elevated; the diagnosis of hypercortisolism is confirmed. The next step is establishing the cause of hypercortisolism. Establishing the cause of hypercortisolism be done by measuring the plasma ACTH levels; a high plasma ACTH indicates an ACTH producing tumor leading to adrenal hyperplasia, a low plasma ACTH indicates an adrenal neoplasm leading to increased cortisol secretion that has a negative feedback on ACTH. With an increased plasma ACTH level, the patient should undergo an MRI to test for a pituitary adenoma. Treatment of Cushing's syndrome involves surgical removal of the source. For the treatment of pituitary causes transsphenoidal surgery is done; for an adrenal neoplasm laparoscopic removal is done. If the

elevated ACTH is due to an ectopic source treatment of that will resolve the Cushing's (Nieman, 2013).

While Cushing's syndrome is the result of excess secretion by the adrenals, Addison disease is due to chronic hypoadrenalism. In approximately 80% of cases Addison disease is due to autoimmune destruction of the gland, other causes include infection, Water – House Friedrichsen syndrome, infection (tuberculosis), and adrenoleukodystrophy. Acute adrenal crisis is the result of hemorrhage, surgery, hypotension, or the abrupt removal of chronic high dose steroid use. Patients present with, weakness, fatigue, altered mental status, nausea, vomiting, hypotension, hyponatremia, and hyperkalemia. In the case of chronic disease, patients also present with hyperpigmentation (Nieman, 2013).

If the cause of hypoadrenalism is the result of a pituitary problem ACTH levels will be low, while if the ACTH levels are high it is due to primary adrenal failure. The most specific test for testing adrenal function is the cosyntropin test. Cosyntropin is a synthetic form of ACTH, and levels of cortisol are measured before and after its administration. In healthy patients, the administration of cosyntropin should lead to a rise in cortisol levels. Treatment for adrenal insufficiency is more important then testing in the acute setting. Replacement of steroids with hydrocortisone is key. Fludricortisone is added because it has a high mineralocorticoid effect (Nieman, 2013).

While these two diseases seem completely different they can be thought of as polar opposites considering one is a result of excess and the other is a result of deficiency. Treatment for Cushing's is much more definite but the

physical appearance of the patient is more socially debilitating. On the other hand patients suffering from Addison's require chronic medication with steroids, but their appearance is not as socially debilitating, just consider JFK.

Works Cited

Nieman, L. (2013) Epidemiology and clinical manifestations of cushing's syndrome. UptoDate. Waltham, MA. Retrieved from: http://www.uptodate.com/contents/epidemiology-and-clinical-manifestations-of-cushings-syndrome?detectedLanguage=en&source=search_result&search=cushing+syndrome+adult&selectedTitle=2~150&provider=noProvider

detectedLanguage= en&source= search_result&search= cushing+syndrome+adult&selectedTitle= 2~150&provider= noProvider

Nieman, L. (2013) Clinical manifesttions of adrenal insufficiency in adults. UptoDate. Waltham, MA. Retrieved from: http://www.uptodate.com/contents/clinical-manifestations-of-adrenal-insufficiency-in-adults?detectedLanguage=en&source=search_result&search=addisons+disease+adult&selectedTitle=1~150&provider=noProvider

detectedLanguage= en&source= search_result&search= addisons+disease+adult&selectedTitle= 1~150&provider= noProvider

addisons+disease+adult&selectedTitle= 1~150&provider= noProvider

Nieman, L. (2013) Treatment of adrenal insufficiency in adults. UptoDate. Waltham, MA. Retrieved from: http://www.uptodate.com/contents/treatment-of-adrenal-insufficiency-in-adults?detectedLanguage=en&source=search_result&search=addisons+disease+adult&selectedTitle=3~150&provider=noProvider

detectedLanguage= en&source= search_result&search= addisons+disease+adult&selectedTitle= 3~150&provider= noProvider

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