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Adrenal Insufficiency- A Short Review

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ABSTRACT

Adrenaline deficiency should be considered - any patient with unexplained severe hypoglycemia or hyponatremia. (1) The medical presentation is variable, depending on whether the onset is severe, leading to adrenal crisis or chronic, where the symptoms are vague and insidious. The diagnosis of adrenal insufficiency relies heavily on a critical level of clinical suspicion. Any patient who presents with peripheral vascular rupture may be suspected of having adrenal insufficiency, even if the patient does not have adrenal insufficiency. Similarly, isolated corticotropin (ACTH) deficiency, although rare.

Keywords:
Autoimmune adrenalitis, Autoimmune polyglandularsyndrome ,cosynotropin test

Introduction

Permanent adrenal insufficiency in the general population is 5 out of 10,000. The hypothalamic pituitary of the disease is usually predominant, not called secondary adrenal insufficiency.
Most of the underlying causes are self-defeating adrenal glands. The other half is genetic, usually due to obvious enzymatic blocks in adrenal steroidogenesis that affect glucocorticoid synthesis.

Exogenous glucocorticoid therapy, as the cause of adrenal insufficiency caused by suppression of the HPA axis, is much more common.
Immediate diagnosis and treatment is very important as it can make the difference between life and death.

Aetiology

Primary adrenal insuffficiency – Any disease process which causes direct injury to the adrenal cortex can result in primary adrenal insufficiency Addison disease (3)

- Isolated autoimmune adrenalitis
- Autoimmune polyglandular syndrome
- Tuberculousadrenalitis other infections
- x-linked adrenoleukodystrophy
- Haemorrhage
- Metastasis
- Congenital adrenal hyperpla

- **Secondary adrenal insufficiency**
  - Iatrogenic suppression
  - Pituitary or hypothalamic tumours
  - Surgery or radiation
  - Pituitary apoplexy

Signs and Symptoms Caused by Glucocorticoid Deficiency

- fatigue, lack of energy, weight loss, anorexia

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- ever fever anemia, lymphocytosis, eosinophilia
- Increase in TSH
- Hypoglycemia
- Low blood pressure, postural hypotension
- Hyponatremia (due to loss of feedback inhibition of AVP release)

Clinical features of Mineralocorticoid Deficiency (Primary AI Only)

- Abdominal pain, nausea, vomiting
- Postural hypotension Salt craving
- Low blood pressure, postural hypotension
- HyponatremiaHyperkalemia

Signs and Symptoms Caused by Adrenal Androgen Deficiency

- Lack of energy
- Loss of libido (in women)
- Axillary and pubic hair loss (in women)

Acute adrenal insufficiency

- Frequently observed in primary adrenal insufficiency
- Hypovolemic shock
- Mimic acute abdomen
- Decreased responsiveness , stupor and coma
- Precipitated by – intercurrent illness, surgical or other stress

Diagnosis of adrenal insufficiency

- Short cosynotropin test
    - Cut off value- cortisol level < 500 – 55 nmol/L(18-20mcg/l) sampled after 30 -60 mins
- Measurement of plasma ACTH

Treatment

- Acute adrenal insufficiency
    - Rehydration – saline at a rate of 1 l/h
    - Glucocorticoid replacement – 100mg of hydrocortisone stat followed by 100-200mg/day
    - Mineralocorticoid replacement
- Chronic adrenal insufficiency
    - Hydrocortisone 15- 25mg / day
    - Stress dose should be advised
- Mineralocorticoid replacement
    - Fludrocortisone – 100- 250mcg/d
- Adrenal androgen replacement
        - DHEA -25 to 50mg/day

Monitoring

On rehabilitation therapy, the goal is to establish and manage minimal alternative food. Indicates dizziness, low blood pressure, excessive salt intake, and inadequate alternative therapy. On the other hand, excessive glucocorticoids can lead to weight gain and clinical features of Cushing's disease. Body weight in particular should be carefully monitored. The long-term risk of developing osteoporosis is higher in patients with high glucocorticoids, requiring regular measurements of bone mineral density. (3)

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Conclusion

The clinical manifestations of adrenal insufficiency vary, depending on whether the onset is severe, leading to adrenal crisis or chronic symptoms that are more insidious and confusing. Adrenal insufficiency A peripheral vascular collapse (vasodilatory shock), whether the patient is known to have adrenal insufficiency or not, should indicate a diagnosis of adrenal crisis. Although the diagnosis of abnormal, isolated corticotropin (ACTH) deficiency should be considered in any patient with unknown severe hypoglycemia and / or hypoventremia.

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