ADRENAL SUPPRESSION IN PEDIATRIC ASTHMA

ADRENAL SUPPRESSION (AS)

• Sustained deficiency of HPA axis following exposure to exogenous glucocorticoids can last from days to a year

• Consider after 2 or more weeks of glucocorticoid therapy (depends on the type, schedule of glucocorticoid administration and individual factors)

SYMPTOMS: ADRENAL SUPPRESSION (Patient may be asymptomatic)

Glucocorticoid Deficiency
• Malaise
• Nausea
• Headache
• Poor growth

• Poor weight gain
• Hypoglycemia*
• Hypotension*
*Symptoms of adrenal crisis

Mineralocorticoid deficiency (causing hypovolemia, hyponatremia and hyperkalemia) is NOT seen with AS (may be seen with other forms of primary adrenal insufficiency)

SCREENING AND DIAGNOSIS OF AS

WHEN TO SCREEN
• Symptoms (refer to table above)
• Patients receiving high dose ICS (e.g. ≥ 500 mcg fluticasone ≥ 800-1200 mcg beclomethasone/budesonide)

HOW TO SCREEN
• Complete 8 am cortisol test
• < lab normal – consider endocrine consult
• within lab normal range – repeat every 6 months

DIAGNOSIS BEST TEST
• Cortisol value < lab norm may indicate AS → Consider endocrine consult
• A normal non-stimulated cortisol does NOT rule out AS
• ACTH stimulation test >500 nmol/L normal in adults, >300 nmol/L normal in infants

PREVENTION AND RECOGNITION OF AS

ALL PATIENTS ON ICS
• Use lowest possible dose of ICS (regular re-evaluation)
• Consider ICS with minimal systemic effects
• Educate at risk patients and family on potential systemic side effects of ICS

In children on high doses of ICS (e.g. ≥ 500 mcg fluticasone) screen & monitor for adrenal suppression every 6 months. Consider referral to endocrinologist if abnormal screening test/growth.


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