

55. EFFECT OF ORAL CLONIDINE ON CORTISOL SECRETION IN MEN. Gil-Ad I., Weitzman A., Weitzman R., Topper E., Kaufman H. and Laron Z. Beilinson Medical Center and Sackler School of Medicine, Tel Aviv University, Israel.

Clonidine (C), an antihypertensive, anti-migraine and growth hormone (hGH) provocative agent, is a central alpha adreno-receptors stimulating drug. C was administered in a single oral bolus in different doses to 3 groups: 1) healthy short children; 2) hGH deficient children; 3) adults with migraine. In all cortisol decreased.

Group	Dose ₂ mg/m ²	n		Plasma Cortisol (ug/dl)		Plasma hGH (ng/ml)	
		M	F	Basal (m±SE)	Nadir (60-90')	Basal	Peak
1	0.150	17	9	13.5 ± 0.9	6.3 ± 0.7	4.9 ± 1.3	34.4 ± 4.9
	0.075	7	3	13.2 ± 2.2	6.0 ± 1.2	2.5 ± 0.5	27.0 ± 1.0
	0.037	10	2	16.5 ± 1.5	7.5 ± 1.0	2.7 ± 0.7	22.5 ± 0.4
2	0.150	3	2	10.2 ± 1.4	5.1 ± 0.7	< 2	< 2
3	0.075	-	15	13.1 ± 0.8	6.5 ± 0.5	2.1 ± 0.6	48.6 ± 14.4

Chronic treatment with C (.25 mg, 2-5xd) caused very low cortisol levels (< 2 ug/dl) in 18 of 12 migraine patients. We assume that C inhibits ACTH secretion by activation of the central alpha adrenergic system and advise special attention in chronic C administration during stressful conditions.

56. STEROID MODULATION OF CORTICOSTEROID PRODUCTION BY ADRENAL CELLS OF FETAL SHEEP
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Cells prepared by collagenase digestion of adrenal cells from fetal sheep of 120-135 days gestation, and incubated in suspension, responded to ACTH concentrations of 20-1660 pg/ml.

However, cells perfused in a column of Biogel-P2 do not respond to ACTH at 1 ng/ml unless washings from a perfused fetal adrenal gland are added to the medium. The active agent in the washings appears in the progesterone fraction, and at a concentration < 0.03 ng/ml stimulates cortisol production to 5 ng/min at a flow of 1 ml/min. This indicates that steroids at very low concentrations are required before fetal sheep adrenal cells will respond to ACTH.

57. Systemic effects of intra-articular corticosteroids.

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Intra-articular (i.a.) corticosteroid (c.s.) injections may give rise to unwanted systemic effects on endogenous cortisol secretion. We studied the systemic effects of a long-acting c.s. and a mixed type after i.a. injection into 30 ambulatory patients suffering from rheumatoid arthritis. Systemic effects were followed by sequential plasma cortisol levels for up to three weeks following i.a. injection.

With the long acting preparation plasma cortisol values were in the normal range, while with the mixed type an early transient decrease of plasma cortisol was found, but the response to ACTH was unaffected for both preparations.