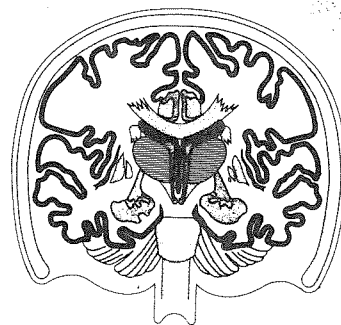


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SEXUALLY DIMORPHIC NEUROCHEMICAL INTERACTIONS IN THE MEDIAL PREOPTIC NUCLEUS AND CONTROL OF COPULATORY BEHAVIOR IN MALE QUAIL

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In quail, the preoptic medial nucleus (POM) of the preoptic area (POA) is larger and shows more intense Nissl staining in males than in females. Morphological, neuroendocrine, neurochemical and behavioral studies have therefore been conducted on this structure and the present communication will review the results obtained so far. The volume and staining of POM are testosterone (T)-dependent: they decrease after castration and return to intact level after T treatment. No sexual dimorphism could be detected in the POM volume of castrated and T-treated quail. This suggests that the volume of the nucleus is directly controlled by the T levels and is not sexually differentiated by the perinatal hormones. The effect of T on the POM seems to be related to the activation of male copulatory behavior. Stereotaxic implantation of T (unilateral 27 g needles filled with crystalline T) into or around the nucleus of castrated males activates copulation but implants located elsewhere in the POA are inactive.

The POA contains high levels of aromatase activity. This enzymatic activity is mainly located in POM as shown by the Palkovits punch technique combined with radioenzyme assay. The POA-POM aromatase activity is T-dependent. The induction by T is observed as early as 8 hours after the implantation of silastic capsules filled with T. The maximal effect is obtained after 2 days. In correlation with the high aromatase activity, POM contains high densities of estrogen receptors as shown by immunocytochemistry. The POA also contains high concentrations of norepinephrine (NE). Quantitative autoradiography demonstrated that the POM is specifically labelled by a high density of α -2 adrenergic receptors (binding sites for tritiated-para-aminoclonidine). This same nucleus is almost totally devoid of cholinergic muscarinic receptors and only contains minute amounts of α -1 adrenergic receptors. Pharmacological depletion of NE levels by the neurotoxic DSP4 enhance T-activated copulatory behavior. This suggests that the noradrenergic system could play an inhibitory role on male sexual behavior. POM could be one site of action of NE through α -2 receptor mechanisms.

HUMAN CORTICOTROPIN RELEASING HORMONE (h-CRH) CHALLENGE IN PATIENTS WITHDRAWN FROM ALCOHOL

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CIRCADIAN VARIATIONS OF GROWTH HORMONE-RELEASING HORMONE-INDUCED GROWTH HORMONE RELEASE IN OBESITY

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Nutritional status and metabolic fuels are factors involved in the regulation of GH response to GHRH. However, we have previously shown a paradoxical increase in GH response after meal in obese patients, in contrast to the blunting effect of food observed in normal subjects. We have further investigated this phenomenon studying the GH response to GHRH before and after meal at different hours during the day in 5 obese patients, aged 18-35 yr. GHRH was injected in a fasting state or 1 hr after a standard meal (800 kcal). The GH peak responses (mean $\pm$ SEM, ng/ml) were:

	before meal	after meal
0900 hr	8.2 $\pm$ 1.3	13.1 $\pm$ 4.9
1300 hr	2.9 $\pm$ 0.5	14.5 $\pm$ 3.9
2000 hr	2.9 $\pm$ 0.8	2.45 $\pm$ 0.7

An augmenting effect of food injection on GH response to GHRH was present at 0900 and 1300 hr and was significant when the patients were tested after lunch (1300 hr). This phenomenon points to an altered sensitivity of GH secretion to metabolic signals in patients with obesity. A circadian variation of this phenomenon does occur.

NOCTURNAL SLEEP-ENDOCRINE EFFECTS OF CORTISOL INFUSIONS IN NORMAL CONTROLS

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