Data presented in this paper indicates that the pineal gland of the 13-day-old cockerel is affected, either directly or indirectly, by the administration of luteinizing hormone. Since it has been shown that LH has no effect on pineal uptake of ^{32}P in vitro[10] it may be hypothesized that the exogenous LH causes an increase in release of testicular hormones which then decrease pineal activity via a negative feedback mechanism. Furthermore, this decreased pineal activity may be a decrease in release or synthesis of Gn-RH which would decrease pituitary LH production.

The results obtained from 3- and 10-day-old birds indicate that this mechanism may not be developed until about 13 days post-hatching. Differences in pineal and testis uptake of ^{32}P by 3- and 10-day-old birds are probably due to the differences in body weights (Table III).

Future studies will attempt to further define the pineal-gonadal relationship.

Summary. The glandular uptake of radioactive phosphorus (^{32}P), administered carrier-free, was used as an endpoint for the study of the effects of luteinizing hormone (LH) on the testis and pineal gland of 3-, 10- and 13-day-old White Leghorn cockerels. Pineal uptake of ^{32}P of the 13-day-old birds decreased and testis uptake of ^{32}P increased following LH treatment. Maximum effects were observed when 20 µg LH was administered 4.0 h before autopsy. Although testis uptake of ^{32}P increased following LH treatment in 3- and 10-day-old cockerels, pineal uptake of ^{32}P remained unchanged.

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Corticosteroid-Like Effect of Cyproterone and Cyproterone Acetate in Mice

Cyproterone (6 chloro δ^{6}-1,2 α-methylene, 17 α-hydroxy progesterone SH 80 881 Schering) and cyproterone acetate (17 α-acetoxy, 6 chloro, 1α, 2α-methylene 4,6 pregnandiene 3,20 dione SH 80 174) are two of the most active antiandrogenic steroids blocking the peripheral action of both endogenous and exogenous testosterone[1–3]. Their blocking effect is manifested in the peripheral target tissues, the seminal vesicles, the prostate and sebaceous glands. The majority of experiments suggest that the mechanism of the antiandrogenic action of cyproterone acetate consists in competitive inhibition of the action of the androgen testosterone or dihydrotestosterone at androgen receptor sites in the target organs. Cyproterone acetate is not only an antiandrogen but also a powerful gestagen. Free alcohol cyproterone is a weaker antiandrogen but has no gestagen activity[1]. Cyproterone acetate was reported to decrease the adrenal weight and level of circulating corticosteroids in the rat[1, 2, 5, 6].

In order to ascertain the corticosteroid-like activity of cyproterone acetate and cyproterone, the drug was administered to intact male mice of strain H (Velaz, Prague) weighing 40 g. The animals were fed a standard laboratory diet (Velaz) containing 23% protein with water ad libitum, and were kept in an indirectly illuminated room with a controlled temperature of 24 + 2 °C. The mice were divided into 4 groups of 8 each. Cyproterone acetate Schering SH 80 714 and cyproterone Schering SH 80 881 were administered in a standard laboratory diet in doses of 5 mg/day p. animal for 21 days. Corticoid prednisone Spofa was given in the food in a dose of 1 mg/day p. mouse for 21 days. The animals were weighed before and after the experiment and their food consumption was checked daily. No food was left, so

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Group	Body weight final (g)	Seminal vesicle (mg/100 g)	Adrenal (mg/100 g)	Spleen (mg)	Spleen (mg/100 g)	Dry spleen (mg/100 g)
Controls	37.5 ± 2.88 (4)	474.9 ± 72.4 (2–4)	15.6 ± 1.8 (2, 4)	211.4 ± 52.4 (2–4)	562.8 ± 145.9 (2–4)	142.0 ± 36.0 (2–4)
Cyproterone acetate	34.0 ± 2.68 (3)	210.6 ± 37.5 (1, 3, 4)	8.6 ± 1.5 (1, 3)	53.2 ± 7.8 (1, 3)	157.7 ± 26.7 (1, 3)	38.8 ± 6.3 (1, 3)
Cyproterone	38.1 ± 2.10 (2, 4)	285.8 ± 32.8 (1, 2, 4)	13.7 ± 3.6 (2, 4)	125.0 ± 25.3 (1, 2, 4)	327.2 ± 60.5 (1, 2, 4)	82.8 ± 15.4 (1, 2, 4)
Prednisone	33.3 ± 1.4 (1, 3)	630.2 ± 120.9 (1–3)	7.5 ± 0.8 (1, 3)	52.8 ± 5.3 (1, 3)	158.7 ± 18.2 (1, 3	39.7 ± 4.1 (1, 3)

Means ± 95% confidence limits. The numbers of groups with statistically different means are given in brackets.

that the amounts of food eaten corresponded to the dose of given drug. After 21 days the animals were killed, the adrenals seminal vesicles and spleen were removed, cleaned and weighed on a torsion balance. Organ weights were expressed in both absolute and relative values (mg/loog b. wt.) The results were evaluated statistically by means of the Duncan's test[7]. The results are given in the Table. Significant changes were observed in the seminal vesicles, which are a highly androgen-dependent tissues. The administration of cyproterone and cyproterone acetate to intact mice caused a significant decrease compared with controls. Prednisone, on the contrary, stimulated the growth of the accessory sexual glands. The statistically significant decrease in adrenal weight after all 3 steroids was in agreement with observations in rats, cyproterone acetate being approximately equivalent to prednisone[4,6]. Cyproterone exerts a similar action but to a smaller extent. A dramatic decrease of the weight of spleen was caused by cyproterone acetate and prednisone, and less pronounced but still significantly by cyproterone. The dry weight of spleen corresponds to the extent of the decrease in wet weight of spleen in the experimental animals.

There is a well-known decrease in thymus weight after corticoids[8,9], in the spleen; the loss of weight following cortisone treatment is not as pronounced as in the thymus but follows the same pattern[8,9]. The corticosteroid-like effect has been described in some gestagens[10,11]. Though cyproterone acetate corticoid-like effect could be connected with its gestagenic properties, this is not valid for the cyproterone effect: cyproterone has no gestagenic effect[1]. When compared with prednisone, cyproterone acetate has approximately $^1/_5$ of the corticoid potency of prednisone, expressed by the decrease of the spleen weight; and so it corresponds in its efficiency to cortisol. If cyproterone acetate were to exert the corticoid-like effect also in other parameters, the combination of antiandrogenic properties and corticoid action would make this drug suitable for the treatment of virilizing adrenal hyperplasia.

Summary. Cyproterone and cyproterone acetate exert the corticoid-like effect on the adrenal and spleen weight in the mice. When compared with prednisone, cyproterone acetate has approximately $^1/_5$ of the corticoid potency of prednisone, expressed by the decrease of the spleen weight.

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Effect of Cortexolone on the Feedback Action of Dexamethasone

Cortexolone (pregn-4-ene-17α, 21 diol-3, 20 dione) was shown to act as an antiglucocorticoid in the thymus[1]. It was found to bind to and to displace the biologically active glucocorticoid from cytoplasmic corticosteroid receptors of the thymus[2,3] and in some regions of the rat brain[4]. Specific glucocorticoid receptors have been demonstrated in various areas of the central nervous system[5–8].

In the present study, the role of these cytoplasmic receptors in the glucocorticoid feedback action was investigated by testing the effect of cortexolone on the feedback action of dexamethasone.

Materials and methods. Male albino rats of the CFE strain, maintained on a standard diet with free access to water, acclimatized to animal room conditions of uniform temperature (24 ± 1 °C) and controlled relative humidity (50–75%) were used. They were injected s.c. with either 1 mg of cortexolone/100 g (Koch-Light Laboratories) dissolved in 0.5 ml of sunflower oil (Groups 2 and 4 in the Table), or 0.5 ml oil/100 g (Groups 1 and 3 in the Table).

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Effect of cortexolone (1 mg/100 g) on the stress-reaction of rats treated with 50 μg/100 g dexamethasone

	Group 1	Group 2	Group 3	Group 4
Subcutaneous injection	oil	cortexolone	oil	cortexolone
Intraperitoneal injection	saline	saline	dexamethasone	dexamethasone
Resting pre-stress level	12.61 ± 1.74 (9)	9.98 ± 2.08 (10)	3.22 ± 0.72[a] (10)	4.48 ± 1.46[a] (10)
Increment induced by histamine stress	16.03 ± 3.86 (9)	14.90 ± 2.18 (10)	6.55 ± 1.56[a] (10)	14.69 ± 1.90 (10)

Mean ± SEM in μg corticosterone/100 ml plasma. [a]significantly different ($p < 0.01$) from its respective control group evaluated by the method of analysis of variance for two-way layout. Numbers in parentheses denote number of determinations.