effect of cyproterone acetate on cells of the pars distalis of the adenohypophysis in the beagle bitch

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Abstract:

The effects of oral administration of 100 mg per kg per day cyproterone acetate (CPA) for four weeks on cells of the pars distalis, as revealed by the immunoperoxidase technique and chemical staining, were studied in the ovariectomized beagle bitch. For immunochemical staining antisera to the following hormones were used: canine GH, canine PRL, procine ACTH, bovine TSH beta, bovine LH beta and human FSH beta1. The most striking effects of the treatment were an overall increase in the relative proportion of GH cells and a marked morphological indication of high secretory activity in these cells. In contrast, PRL cells were not affected significantly. In all ovariectomized control bitches a marked atrophy of the cells stained for FSH beta (FSH cells) and hypertrophy of the cells shown to contain LH beta (LH cells) were observed. FSH cells became enlarged, while LH cells appeared reduced in size by administration of CPA. In some treated bitches ACTH/MSH cells showed atrophy and regressive changes, whereas TSH cells seemed to become enlarged and were more densely arranged. These structural responses indicate that, in addition to its partial antigonadotropic properties, CPA as a synthetic progesterone derivative may stimulate GH secretion and possibly suppress CRH-ACTH activity in the ovariectomized beagle bitch.

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