These results confirm *in vivo* that elevation of plasma CS levels and, by inference, CRF secretion are brought about by muscarinic and serotoninergic stimulation or by depletion of brain noradrenaline. The muscarinic and serotoninergic pathways in this model appear to be independent of each other. Inhibitory receptors appear to be of the α_2 type. Dopamine receptors appear not to be involved in the inhibition of CS secretion.

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The effect of cortisol on the response of the depolarized, calcium-free mouse uterus to calcium

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Several of the stimulatory effects of oestrogens on uterine metabolism can be inhibited by anti-inflammatory corticoids (Szego & Davis, 1969). These steroids can also affect the response of the potassium-depolarized, calcium-free uterus to calcium, when they are added directly to the tissue bath (Henry, Jackson & Knifton, 1973).

Virgin, Porton mice (20 g) were ovariectomised under ether anaesthesia. Seven days after ovariectomy the animals were injected i.p. with arachis oil (0.1 ml), oestradiol 17B (4 μg/100 g), cortisol (either 1.0 or 0.5 mg/100 g) or oestradiol (4 μg/100 g) and cortisol (either 1.0 or 0.5 mg/100 g). Cumulative log dose-response curves (DRC) to calcium were obtained on the mouse uterus with the technique described by Simonis, Ariens & Van den Broeke (1971). Contractions were recorded isotonically with a Washington transducer and MD400 pen recorder.

Some DRCs were plateau-shaped. The effect of oestrogen was to shift the DRC to the left of the vehicle-only control (i.e. arachis oil-treated) group. The mean DRC for the oestrogen group ($n = 12$) was significantly different ($P < 0.05$) from that of the control group (tested by anal. of var.). In both of the cortisol-treated groups the DRC was similar to that obtained with oestrogen and neither was statistically different from it. However, in both of the groups which received oestrogen plus cortisol the DRC was similar to that obtained from the control group. ($n = 10$ in all groups other than oestrogen-treated).

Kimura, Kimura & Maekawa (1978) observed a plateau-like DRC in similar experiments on rat uterus, which they attributed to an interaction between extracellular and membrane bound calcium. Since we observed this type of DRC in some groups, we support their claim that this is not an artifact. Our results suggest that cortisol alone has an oestrogen-like effect on the DRCs to calcium but that in the presence of oestrogen it is anti-oestrogenic.

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