

# Effect of theophylline on nuclear retention of oestrogen-receptor complexes: correlation with oestrogen responses

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In the ovariectomized adult rat uterine oedema induced by 0.01 and 0.1  $\mu$ g oestradiol-17 $\beta$ /100 g body weight increased further in the presence of theophylline. Nuclear retention of oestrogen-receptor complexes also increased in response to theophylline both in vivo and in vitro. Theophylline decreased the number of eosinophils in the blood and concurrently decreased oestrogen-induced uterine eosinophilia at doses of 0.001, 0.1, 1, 10 or 30  $\mu$ g oestradiol/100 g body weight, through a mechanism independent of glucocorticoids. There was, therefore, no correlation between changes in the number of uterine eosinophils and changes in uterine wet weight induced by theophylline and oestrogen. It is suggested that the presence of oestrogen-receptor complexes in the nucleus for at least 4 h is a prerequisite for the induction of uterine oedema and growth in the presence of theophylline and oestradiol-17 $\beta$ .