EFFECTS OF TAMOXIFEN, MIFEPRISTONE AND CYPROTERONE ON THE ELECTROCONVULSIVE THRESHOLD AND PENTETRAZOLE-INDUCED CONVULSIONS IN MICE

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The aim of this study was to evaluate the efficacy of three antihormones, tamoxifen (TXF, an antiestrogen), mifepristone (MIF, an antiprogesterone) and cyproterone (CYP, an antiandrogen) in two major models of experimental epilepsy, electrically and pentetrazole (PTZ)-evoked seizures in mice. TXF (20–50 mg/kg) significantly raised the threshold for electroconvulsions in female mice, whereas CYP was active in male mice. Similar effects were observed in castrated mice. Different data were obtained in sexually immature animals since both TXF and CYP exerted anticonvulsive effects in animals of both genders. MIF (5–20 mg/kg) remained without effect on electrically evoked seizures in mice. The anticonvulsive action of TXF was reversed by aminophylline, bicuculline, kainic acid and N-methyl-D-aspartic acid, but not by estradiol or strychnine. The protective action of CYP was reversed by aminophylline and bicuculline, but not by testosterone, kainic acid, N-methyl-D-aspartic acid or strychnine. All three antihormones were ineffective against PTZ-induced convulsions in mice. Our results suggest that the action of TXF and CYP might be indirectly associated with the respective hormonal receptor-mediated events, but the nature of this dependence is unclear and further investigations are needed to elucidate this phenomenon.

Key words: tamoxifen, mifepristone, cyproterone, electroconvulsive threshold, pentetrazole-evoked seizures

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