PRELIMINARY COMMUNICATION

EFFECT OF SOME ANTIPSYCHOTIC DRUGS ON IMMUNOREACTIVITY IN C57BL/6 MICE

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The study examined the effect of some typical and atypical antipsychotic drugs on mouse lymphocyte metabolic and proliferative activity in vitro. The typical antipsychotic drug chlorpromazine (3 × 10⁻⁶, 10⁻⁵ and 10⁻⁴ M), significantly inhibited ³H-thymidine incorporation into C57BL/6 mouse spleen cells stimulated by concanavalin A (Con A), lipopolysaccharide (LPS) or pokeweed mitogen (PWM). Chlorpromazine at concentrations of 10⁻⁵ and 10⁻⁴ M also suppressed the metabolic activity of splenocytes after Con A stimulation.

The atypical antipsychotic agent clozapine (10⁻⁴ and 10⁻⁵ M) decreased the proliferative activity of splenocytes after LPS stimulation, but its inhibitory effect after Con A was observed only at higher concentrations. On the other hand, clozapine did not affect the metabolic activity of splenocytes.

Sulpiride, a selective dopamine D₂ antagonist, at concentrations ranging from 10⁻⁸ to 10⁻⁴ M had no inhibitory effect on the proliferative or metabolic activity of the tested cells.

The obtained results indicate that of the three antipsychotic drugs studied, chlorpromazine shows the most potent immunosuppressive effect, clozapine produces a moderate effect and sulpiride is totally inactive. These findings suggest that the choice of antipsychotic drugs should also depend on disturbance of immune system activity, in particular, those occurring in the several forms of psychosis.

Key words: chlorpromazine, clozapine, sulpiride, proliferative and metabolic activity of splenocytes