


Non-human primates: translational models for predicting antipsychotic-induced movement disorders.

RD. Porsolt, V. Castagné, E. Hayes and D. Virley.
J Pharmacol Exp Ther, 347 542-546, 2013.

 <http://www.ncbi.nlm.nih.gov/pubmed/?term=RD.+Porsolt%2CV.+Castagn%C3%A9%2CE.+Hayes+and+D.+Virley.+Nonhuman+primates%3A+translational+models+for+predicting+antipsychoticinduced+movement+disorders.>

Abstract

Repeated haloperidol treatment administered to nonhuman primates (NHPs) over several months or even years leads to the gradual appearance of drug-induced dystonic reactions in the orofacial region (mouth opening, tongue protrusion or retraction, bar biting) and in the whole body (writhing of the limbs and trunk, bar grasping). The propensity of antipsychotics to induce dystonia in NHPs is not correlated with their propensity to induce catalepsy in rodents, suggesting that the two types of effects are dissociated and may represent distinct aspects of the extrapyramidal symptoms induced by antipsychotics. In view of the clear homology to clinically observed phenomena, antipsychotic-induced dystonias in antipsychotic-primed NHPs would appear to possess a high degree of translational validity. These NHP phenomena could therefore serve as a useful model for predicting the occurrence of similar abnormal movements with novel substances developed for the treatment of schizophrenia or other psychotic disorders. Moreover, the NHP dystonia model could possibly serve as a biomarker for substances that will eventually cause tardive dyskinesia in patients.