INPLASY PROTOCOL

Canonical and non-canonical antipsychotics' molecular effects of present and next generation molecules on dopamine: translational highlights for treatment response and treatment-resistant schizophrenia

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Review question / Objective: We aimed to provide a critical appraisal of canonical and non-canonical antipsychotics' molecular effects of present and next generation molecules by focusing on clinical implications for treatment responsiveness and resistance.
Condition being studied: We focused on animal models as well as human studies employing antipsychotic administration and exploring putative canonical and non-canonical mechanisms of action and the impact on treatment response or resistance.

INTRODUCTION

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METHODS

Search strategy: (((((((((((((Dopamine[Title/Abstract]) OR (dopamine transporter[Title/Abstract])) OR (tryosine 3-monooxygenase[Title/Abstract])) OR (dopamine receptor*[Title/Abstract])) OR (dopa decarboxylase[Title/Abstract])) AND (machanism of action[Title/Abstract])))) OR (antipsychotic* agent*[Title/Abstract])) AND (postsynaptic density[Title/Abstract])) OR (postsynaptic density protein*[Title/Abstract])) OR (presynaptic terminal*[Title/Abstract])) AND (schizophrenia[Title/Abstract])) OR (treatment resistant schizophrenia[Title/Abstract]).

Participant or population: Animals and humans.

Intervention: Administration of present and next generation molecules with antipsychotic effects.

Comparator: Administration of vehicle in animals or placebo in humans.

Study designs to be included: We included preclinical studies as well as clinical trials and observational studies conducted in humans and reviews on the topic.

Eligibility criteria: We considered eligible for the study: English-written in vitro or in vivo, both in animal models or humans articles, published in peer-reviewed journals without any time restriction.

Information sources: The search was carried out on three different databases (EMBASE, Scopus, and PubMed). Additional documents were obtained by hand-searching the reference lists of enclosed items.

Main outcome(s): Impact of antipsychotics on molecular components of different neurotransmitter systems, intracellular pathways, and postsynaptic density proteins as well as clinical measures of responsiveness and resistance to different molecules.

Quality assessment / Risk of bias analysis: Not applicable.

Strategy of data synthesis: Not applicable.

Subgroup analysis: Not applicable.

Sensitivity analysis: Not applicable.

Country(ies) involved: Italy.

Keywords: treatment-resistant schizophrenia; antipsychotic; postsynaptic density; dopamine; glutamate; synaptopathy.

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