Effect of Risperidone on Cognitive Functions in Adolescents With ADHD and Behavioral Disturbances

This study is not yet open for participant recruitment. (see Contacts and Locations)

Verified September 2016 by Shalvata Mental Health Center

Sponsor:
Shalvata Mental Health Center

Information provided by (Responsible Party):
Ziv Carmel, Shalvata Mental Health Center

ClinicalTrials.gov Identifier:
NCT02906501

First received: September 11, 2016
Last updated: September 14, 2016
Last verified: September 2016

Purpose

Introduction: The use of low dose risperidone and other antipsychotic drugs off-label as augmentation treatment for adolescents with Attention Deficit Hyperactivity Disorder (ADHD) and Disruptive Behavioral Disorder (DBD) has become widely common worldwide, usually to help control behavioral difficulties. While some argue that agents that block dopaminergic receptors may have a deleterious cognitive effect, others stress their moderating effects, which possibly improve function in all domains, including cognitive functions. Only a few studies have examined this topic, with inconclusive results.

Aim of study: To measure the effect of risperidone treatment on various cognitive functions in a population of ADHD diagnosed children and adolescents with normal IQ.

Design: The study is an observational prospective open label clinical controlled trial. The investigators will compare the performance in a battery of cognitive tasks using the Penn Web-Based Computerized Neurocognitive Battery (WebCNP) and the IGT, in children and adolescents diagnosed with ADHD, with and without risperidone.

Study population: Children and adolescents diagnosed with ADHD, 8-17 years old, may be eligible for this study. We will recruit subjects who their psychiatrist is considering risperidone treatment, those who are already treated with risperidone and subjects with only stimulants treatment. All pharmacological treatment is supervised and prescribed to subjects by their personal psychiatrist unrelated to the study.

Significance: Better knowledge of the specific cognitive effects of this form of therapy will help us guide both clinical decisions, and recommended monitoring in daily clinical work.
Study Type: Observational

Study Design: Observational Model: Case Control
Time Perspective: Prospective

Official Title: Effect of Risperidone on Cognitive Functions in Adolescents With ADHD and Behavioral

Resource links provided by NLM:

MedlinePlus related topics: Compulsive Gambling
Drug Information available for: Risperidone
U.S. FDA Resources

Further study details as provided by Shalvata Mental Health Center:

Primary Outcome Measures:
- The Penn Web-Based Computerized Neurocognitive Battery (WebCNP) scores [ Time Frame: 1 year ]
  [ Designated as safety issue: No ]

Secondary Outcome Measures:
- Iowa Gambling Task (IGT) scores [ Time Frame: 1 year ] [ Designated as safety issue: No ]

Estimated Enrollment: 45

Study Start Date: September 2016

Estimated Study Completion Date: March 2018

Estimated Primary Completion Date: September 2017 (Final data collection date for primary outcome measure)

<table>
<thead>
<tr>
<th>Groups/Cohorts</th>
<th>Assigned Interventions</th>
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</table>
| Group I (n=15) | Procedure: The Penn Web-Based Computerized Neurocognitive Battery  
The Battery (PennCNP) of the Brain Behavior Laboratory at the University of Pennsylvania offers a range of probes of human neuropsychological functioning. It was designed for neuropsychological measurement of major cognitive domains. The WebCNP is administered using clickable icons on desktop or laptop computers, in a fixed order. Administering the tests in a standard fashion fostering optimal |
performance without aiding the participant is required. For each domain, accuracy and speed are computed. Full battery completion takes approximately 2 hours. Each test begins with a practice module, to assure understanding of the instructions.

**Procedure: The Iowa Gambling Test (IGT)**

The essential feature of this task is that it mimics real-life situations in the way it factors uncertainty, reward and punishment. The task involves four decks of cards, named A, B, C and D. The goal is to maximize profit on a loan of play money. Subjects are required to make a series of 100 card selections, but are not told ahead of time how many card selections they are going to be allowed to make. Cards can be selected one at a time, from any deck, and subjects are free to switch from any deck to another, at any time and as often as they wish. The decision to select from one deck or another is largely influenced by schedules of reward and punishment. These schedules are pre-programmed and known to the examiner, but not to the subject (Bechara et al., 1994, 1999a).

<table>
<thead>
<tr>
<th>Group II (n=15)</th>
<th>Male children and adolescents diagnosed with ADHD intended to start risperidone or any other antipsychotic treatment due to behavioral problems.</th>
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<tbody>
<tr>
<td>Procedure: The Penn Web-Based Computerized Neurocognitive Battery</td>
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</tr>
</tbody>
</table>

| Group III (n=15) | Male children and adolescents diagnosed with ADHD treated with | Procedure: The Penn Web-Based Computerized Neurocognitive Battery The Battery (PennCNP) of the Brain Behavior Laboratory at the University of Pennsylvania offers a range of probes of human neuropsychological functioning. It was designed for neuropsychological measurement of major cognitive domains. The WebCNP is administered using clickable icons on desktop or laptop computers, in a fixed order. Administering the tests in a standard fashion fostering optimal performance without aiding the participant is required. For each domain, accuracy and speed are computed. Full battery completion takes approximately 2 hours. Each test begins with a practice module, to assure understanding of the instructions. Procedure: The Iowa Gambling Test (IGT) The essential feature of this task is that it mimics real-life situations in the way it factors uncertainty, reward and punishment. The task involves four decks of cards, named A, B, C and D. The goal is to maximize profit on a loan of play money. Subjects are required to make a series of 100 card selections, but are not told ahead of time how many card selections they are going to be allowed to make. Cards can be selected one at a time, from any deck, and subjects are free to switch from any deck to another, at any time and as often as they wish. The decision to select from one deck or another is largely influenced by schedules of reward and punishment. These schedules are pre-programmed and known to the examiner, but not to the subject (Bechara et al., 1994, 1999a). |
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Procedure: The Iowa Gambling Test (IGT)

The essential feature of this task is that it mimics real-life situations in the way it factors uncertainty, reward and punishment. The task involves four decks of cards, named A, B, C and D. The goal is to maximize profit on a loan of play money. Subjects are required to make a series of 100 card selections, but are not told ahead of time how many card selections they are going to be allowed to make. Cards can be selected one at a time, from any deck, and subjects are free to switch from any deck to another, at any time and as often as they wish. The decision to select from one deck or another is largely influenced by schedules of reward and punishment. These schedules are pre-programmed and known to the examiner, but not to the subject (Bechara et al., 1994, 1999a).

Detailed Description:

Study Purpose: To evaluate the effect of atypical antipsychotic augmentation, specifically risperidone on specific cognitive domains in adolescents with ADHD and behavioral disturbances.

Hypotheses:

1. Risperidone will improve performance in tasks assessing attention, verbal memory, visual memory and working memory in adolescents with ADHD and DBDs
2. Risperidone will impair performance in tasks assessing spatial memory and some executive functions in adolescents with ADHD and DBDs.
3. Risperidone, but not other atypical antipsychotic, will improve performance on the IGT.

Study Design

General:

This study is an observational prospective open label clinical controlled trial.

The planned study will compare performance, with and without the effect of risperidone, in various cognitive tasks in children and adolescents diagnosed with ADHD.

Each subject will perform a battery of cognitive tasks using the Penn Web-Based Computerized Neurocognitive Battery (WebCNP) and the Iowa Gambling Test (IGT).

Experimental Procedure

Each potential subject and his parents will be screened on the phone for the study. All enrolled subjects will be instructed to avoid taking any stimulant treatment on the days of assessment sessions. On the day of enrolment,
each subject will be evaluated by a standard basic medical interview and physical and neurological examinations for evidence of current neurological and physical disorders. They will also be evaluated by the Development and Well-Being Assessment (DAWBA) for evidence of any psychiatric disorders. Parents will also answer DAWBA questionnaire. Subjects who will qualify for the study and their parents will receive a comprehensive explanation on the study and will sign an informed consent form. Subjects will then complete The Penn Web-Based Computerized Neurocognitive Battery (WebCNP) and the Iowa Gambling Test (IGT). The first session will take approximately 2.5 hours. All subjects will undergo a follow up session approximately a month after the first session. The second session will take approximately 2 hours. Subjects in Groups II will be instructed to start taking their risperidone after the first session and on the day of the follow up session. Subjects on Group III will be instructed to take their risperidone or other atypical antipsychotic treatment on days of the experiment in the night before the session at least 8 hours before the sessions and in the month between them. The treatments with Risperidone will be given only according to the decision and guidance of the subject's physician. All subjects will be invited to perform the Penn Continuous Performance Test for a third time, under the influence of their stimulant treatment. Normal IQ will be ascertained using the Raven's Progressive Matrices task which is a part of the WebCNP battery.

Eligibility

- **Ages Eligible for Study:** 8 Years to 17 Years (Child)
- **Genders Eligible for Study:** Male
- **Accepts Healthy Volunteers:** No
- **Sampling Method:** Non-Probability Sample

**Study Population**

Children and adolescents diagnosed with ADHD, 8-17 years old, may be eligible for this study. Informed consent will be obtained from potential subjects' parents, and subjects will provide their own assent, according to the local and national IRB committees.

**Criteria**

**Inclusion Criteria:**

- Male children and adolescents diagnosed with ADHD Age: 8-17 years.
- Psychiatric comorbidities including: Major Depressive disorder, General Anxiety Disorder, Panic Disorder, Obsessive Compulsive Disorder, Oppositional Defiant Disorder, Conduct Disorder, Disruptive Dysregulation Mood Disorder, Intermittent Explosive Disorder and all phobias.

**Exclusion Criteria:**

- Any current serious medical or surgical illness.
- History of a major neurological illnesses (including brain injury).
- Psychiatric comorbidities including: All psychotic disorders, Bipolar Disorder and personality disorders.
- History of alcohol or substance abuse.
- Intellectual disability: Total IQ< 70

**Contacts and Locations**

Choosing to participate in a study is an important personal decision. Talk with your doctor and family members or friends about deciding to join a study. To learn more about this study, you or your doctor may contact the study research staff using the Contacts provided below. For general information, see Learn About Clinical Studies.

Please refer to this study by its ClinicalTrials.gov identifier: NCT02906501

**Contacts**
Locations

Israel

Cognition Research Lab Shalvata Mental Hospital
Hod- Hasharon, Israel
Not yet recruiting

Contact: CHEN DROR, M.D  +9729-7478644  chendr1@clalit.org.il
Contact: Yuval BLOCH, M.D  +9729-7478644  yuvalbl@clalit.org.il

Sponsors and Collaborators
Shalvata Mental Health Center

More Information

Responsible Party: Ziv Carmel, Principal Investigator, Shalvata Mental Health Center
ClinicalTrials.gov Identifier: NCT02906501  History of Changes
Other Study ID Numbers: SHA-000-7-16
Study First Received: September 11, 2016
Last Updated: September 14, 2016
Health Authority: Israel: Ministry of Health

Individual Participant Data
 Plan to Share IPD: Undecided

Keywords provided by Shalvata Mental Health Center:
Risperidone IGT
ADHD CNP
DBD Executive functions

Additional relevant MeSH terms:
Risperidone Antipsychotic Agents
Serotonin Antagonists Tranquilizing Agents
Serotonin Agents Central Nervous System Depressants
Neurotransmitter Agents Psychotropic Drugs
Molecular Mechanisms of Pharmacological Action Dopamine Antagonists
Physiological Effects of Drugs Dopamine Agents

ClinicalTrials.gov processed this record on September 20, 2016