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Study of treatment of patients with Opisthorchis felineus infection

Submission date
17/07/2017

Recruitment status
No longer recruiting

Registration date
09/08/2017

Overall study status
Completed

Last Edited
20/09/2023

Condition category
Infections and Infestations

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Opisthorchis felineus is a parasitic worm that causes opisthorchiasis (liver infection). It is mainly found in the Ob-Irtisch river basin running from the south to north of Western Siberia (Russia). The prevalence of opisthorchiasis in Siberian people is estimated to be up to 50–80%. An infection can cause abdominal pain, jaundice, weakness, loss of appetite, diarrhea, itching and skin rash. The only drug officially registered in Russia for the treatment of opisthorchiasis is praziquantel. The aim of this study is to compare the effectiveness and safety of different praziquantel treatments against Opisthorchis felineus infection.

Who can participate?
Patients aged between 18 and 65 who have Opisthorchis felineus infection

What does the study involve?
Participants are randomly allocated to one of five groups. Those in the first group receive 20 mg /kg body weight (BW) of praziquantel in a single oral daily dose. Those in the second group receive 40 mg/kg BW of praziquantel in a single oral daily dose. Those in the third group receive 60 mg/kg BW of praziquantel in a single oral daily dose. Those in the fourth group receive 60 mg /kg BW divided into three intakes per day (the standard treatment in Russia). Those in the fifth group receive a single dose of a placebo (dummy drug). 18-25 days after receiving the treatment, participants provide two stool samples on two different days which are tested for signs of parasitic worm eggs. Participants are also interviewed before treatment and within the follow-up period about whether they have experienced any side effects.

What are the possible benefits and risks of participating?
All participants benefit from receiving a clinical examination and Opisthorchis felineus infection treatment. All participating patients from the placebo group who are positive for Opisthorchis felineus infection at the end of the study are treated with standard treatment with praziquantel. There are no notable risks involved with participating.

Where is the study run from?
Siberian State Medical University (Russian Federation)

When is the study starting and how long is it expected to run for?
June 2017 to March 2018

Who is funding the study?
Russian Foundation for Basic Research (Russian Federation)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
v 01 (10.05.2017)

Study information

Scientific Title
Dose-finding and pharmacokinetic studies of praziquantel in patients infected with Opisthorchis felineus

Study objectives
The purpose of this study is to assess the safety and efficacy of different praziquantel short course treatment schemes against Opisthorchis felineus infection.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics Committee of Siberian State Medical University, 29/05/2017, ref: N 5308

Primary study design
Interventional

Study design
Randomized controlled single-blind study

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Opisthorchis felineus infection

Interventions
Patients will be randomized using block randomization to one of five groups:
Intervention group 1: Participants receive praziquantel 20 mg/kg BW (body weight) by single oral daily dose
Intervention group 2: Participants receive praziquantel 40 mg/kg BW by single oral daily dose
Intervention group 3: Participants receive praziquantel 60 mg/kg BW by single oral daily dose
Intervention group 4: Participants receive praziquantel 60 mg/kg BW divided into three intakes per day (standard treatment in Russia)
Control group 5: Participants receive a single dose of a placebo

The duration of the treatment is one day (for interventional groups 1, 2, 3, 5 - single dose, for interventional group 4 - multiple dose). The duration of the follow-up is 18-25 days. 18-25 days after receiving the treatment, participants provide two stool samples (in two different days) which are then tested for signs of parasitic worm eggs. Participants are also interviewed before treatment and within the follow-up period about whether they have experienced any side effects. The pharmacokinetics assessment is performed within 24 hours after intake of the praziquantel.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Praziquantel

Primary outcome(s)
Cure rate (i.e. conversion from being Opisthorchis felineus egg positive pre-treatment to egg negative post-treatment) on 18-25 days of the follow-up. The parasitological study will be used for the confirmation of the Opisthorchis felineus infection (microscopy of stool, quantitative analysis with PARASEP technique). For the post-treatment point two stool samples on two different days will be collected and analysed

Key secondary outcome(s)

1. Egg reduction rate against Opisthorchis felineus infection assessed post-treatment assessed pre-treatment to post-treatment on 18-25 days of the follow-up. The parasitological study will be used for the assessment of the intensity of Opisthorchis felineus infection (microscopy of stool, qualitative analysis with PARASEP technique). For the post-treatment point two stool samples on two different days will be collected and analysed
2. Pharmacokinetic parameters: drug concentrations measured at 0, 0.5, 1, 1.5, 2, 2.5, 3, 6, 8, 12, 24 hours (single doses) and 0, 1, 2, 4, 5, 6, 7, 8, 10, 12, 24 hours (multiple doses) post-dosing

Completion date
01/03/2018

Eligibility

Key inclusion criteria
1. Written informed consent signed by participant prior to any study procedures
2. Patients 18-65 years and infected with Opisthorchis felineus as assessed by the presence of eggs in the stool
3. Able and willing to be examined by a study physician at the beginning of the study and at the end-of study (3 weeks post-treatment)
4. Able and willing to provide 2 stool samples at the beginning and end of study
5. Absence of major systemic illnesses, as assessed by the medical doctor, upon initial clinical assessment
6. Absence of psychiatric and neurological disorders
7. No known or reported hypersensitivity to praziquantel
8. No known or reported history of chronic illness as cancer, diabetes, chronic heart, liver or renal disease

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 Years

Upper age limit
65 Years

Sex
All

Total final enrolment
110

Key exclusion criteria

1. No written informed consent
2. Presence of any abnormal medical condition, judged by the study physician
3. History of acute or severe chronic disease such as liver or renal disease
4. Recent use of anthelminthic drug (within past 4 weeks)
5. Pregnancy or breastfeeding
6. History of acute or severe chronic disease
7. Known or reported psychiatric or neurological disorders
8. Administration of any investigational product or use of any investigational device within 30 days prior to praziquantel administration
9. Subjects who have used drugs that may affect the pharmacokinetics of praziquantel from 15 days before dosing until the last PK sample, e.g., phenytoin, barbiturates, primidone, carbamazapine, oxcarbazepine, topiramate, felbamate, rifampicin, nelfinavir, ritonavir, griseofulvin, oral ketoconazole
10. Consumption of substances known to be potent inhibitors or inducers of CYP P450s such as grapefruit juice, grapefruit juice containing products, and herbal remedies or dietary supplements containing St. John's Wort, in the two weeks before dosing
11. Attending other clinical trials during the study
12. Negative diagnostic result for Opisthorchis felineus
13. Allergy to praziquantel

Date of first enrolment
01/06/2017

Date of final enrolment
15/02/2018

Locations

Countries of recruitment
Russian Federation

Study participating centre
Siberian State Medical University
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634050

Sponsor information

Organisation
Siberian State Medical University

ROR
https://ror.org/01yecy831

Funder(s)

Funder type
Government

Funder Name
Russian Foundation for Basic Research

Alternative Name(s)
Российский Фонд Фундаментальных Исследований, Russian Foundation for Basic Research (Russia), RFBR, РФФИ

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Russian Federation

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are/will be available upon request from Prof. Olga Fedorova (olga.sergeevna.fedorova@gmail.com). The data will be available from mid 2019 onwards, and access will be decided on a case by case basis. Only analyses mentioned in the protocol and ICF will be allowed and data will be anonymized.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	PK and dose-finding results	18/10/2022	20/09/2023	Yes	No