ISRCTN71305621 https://doi.org/10.1186/ISRCTN71305621

Optimising individualised prescribing with therapeutic drug Monitoring for Antipsychotics (OptIMA) 2: clinical pilot study of antipsychotic drug level monitoring

Submission date
10/09/2010

Recruitment status
No longer recruiting

Registration date
04/11/2010

Overall study status
Completed

Last Edited
07/08/2020

Condition category
Mental and Behavioural Disorders

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

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

Contact name
Dr Maxine Patel

Contact details
Institute of Psychiatry, King's College London
Box 68
16 De Crespigny Park
London
United Kingdom
SE5 8AF

Additional identifiers

Protocol serial number
NIHR/CS/009/010

Study information

Scientific Title

Optimising Individualised prescribing with therapeutic drug Monitoring for Antipsychotics (OptIMA) 2: Clinical pilot study of antipsychotic drug level monitoring - a pilot multicentre open-label single-arm clinical trial

Acronym
OptIMA 2

Study objectives
The aim is to refine the method of using plasma level therapeutic drug monitoring (TDM) for olanzapine/risperidone for individual patient antipsychotic dose management in routine acute inpatient settings. This will include confirmation of logistics, methods and refinement of guidance on interpretation of the plasma level results. This includes method for sending samples from various hospital sites to the laboratory, laboratory assay request forms for study participants, clinician understanding and use of algorithm, and speed of rapid feedback of online TDM results to clinicians.

This will be a pilot clinical trial study which is small scale in design for 30 inpatients with acute psychosis prescribed olanzapine or risperidone, with 6-week follow-up data capture. The intervention is assessment of antipsychotic blood levels (plasma concentrations) and this will be conducted for all participants.

This is the second of three studies in the project entitled 'Optimising Individualised prescribing with therapeutic drug Monitoring for Antipsychotics (OptIMA)'.

Ethics approval required
Old ethics approval format

Ethics approval(s)
South East Research Ethics Committee (REC), ref: 10/H1102/59

Study design
Small-scale multicentre open pilot clinical trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Schizophrenia, schizoaffective disorder

Interventions
Medication decisions will be made by the participant's own clinician.

The intervention is TDM with rapid results feedback and a clinician guidance algorithm. A plasma level blood sample, 12 hours post-dose, will be collected 7 - 14 days after drug initiation. The sample will be sent with a trial-specific lab analysis request form to the laboratory. The lab results will be available via a secure online system within a target of 3 working days.

The drug concentration method of analysis at this lab will be high performance liquid chromatography with mass spectrometry. The assay is fully validated to FDA GLP standards. Sample requirement is 2 ml plasma (4 ml whole blood required).

Repeat TDM with feedback will be allowed (up to two further times) until a drug plasma level in the olanzapine 20 - 40 ng/mL target range (or risperidone 20 - 60 ng/mL) is reached or up to the point of discharge from the inpatient unit, whichever is earlier.

The newly created clinician guidance algorithm will enable the participant's clinicians to optimise prescribing for individuals based on an objective measure and will facilitate lowest effective dose prescribing. It will also enable clinicians to identify patients with drug levels above the therapeutic window who are at risk of toxicity. It will inform prescribing with plasma levels not as the sole determinant of dosage, but importantly in conjunction with the clinician's and patient s assessment of symptom change, side effects, and medication adherence.

Participant decision optional extra:
A saliva test for olanzapine or risperidone saliva levels will be offered to the participant. This will be at same time as the primary intervention and will be in addition to the blood test (and not instead of the blood test). The purpose for doing this extra saliva test is to seek evidence of equivalence in accuracy between blood samples and saliva samples for antipsychotic drug level measurements. Although saliva sample testing technology exists, its accuracy and equivalence has not yet been confirmed in comparison to blood sample testing.

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
1. Total daily prescribed dose, measured at 6 weeks follow-up
2. Drug discontinuation, measured at 6 weeks follow-up

Outcome measures will be based on a review of case notes and further participant direct contact will not be required.

Key secondary outcome(s))
Measured at 6 weeks follow-up:
1. Documented evidence of clinician checking the test results, changes to medication regimen (including dose titration)
2. Duration of in-patient stay (and also days in psychiatric intensive care)
3. Use of short-acting intramuscular medication (benzodiazepines, etc.)
4. Rehospitalisation
5. Legal detention status
6. Accuracy and equivalence of saliva antipsychotic level testing in comparison to blood sample testing

Completion date
30/09/2011

Eligibility

Key inclusion criteria
1. Aged 18 - 65 years, either sex
2. Schizophrenia/schizoaffective disorder (clinician International Classification of Disease [ICD-10] diagnosis)
3. Symptoms of acute psychosis
4. Admitted in past two weeks to participating inpatient acute wards
5. Routine clinician initiation (including switch/new initiation/recommencement) of regularly daily prescribed olanzapine as antipsychotic monotherapy, i.e., only one daily antipsychotic drug
6. Legally detained participants will be permitted if they have capacity to consent to the study

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Total final enrolment
32

Key exclusion criteria
1. Use of clozapine in past 12 months (i.e. whose illness has been classified as 'treatment resistant') but who are now prescribed olanzapine. This is because they would not be expected to benefit from changes in olanzapine dosage.
2. Use of another simultaneous regularly prescribed daily antipsychotic (other than p.r.n) at study onset

Date of first enrolment
01/10/2010

Date of final enrolment
30/09/2011

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Institute of Psychiatry, King's College London
London
United Kingdom
SE5 8AF

Sponsor information

Organisation
Institute of Psychiatry, Kings College London (UK)

ROR
https://ror.org/0220mzb33

Funder(s)

Funder type
Government

Funder Name
National Institute for Health Research (NIHR) (UK) - Clinician Scientist Fellowship Award (ref: NIHR/CS/009/010)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/08/2015	07/08/2020	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes