

Anti-TB therapy following drug-induced liver injury (TB-DILI)

Submission date 08/06/2022	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 25/08/2022	Overall study status Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 23/10/2025	Condition category Respiratory	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

The standard 4 drug treatment for active tuberculosis (TB) is very effective if the full 6-month course is completed. However, there can be side effects. An important side effect is drug-induced liver injury (DILI). Around 1 in 14 patients may be affected. For patients experiencing these complications, treatment is usually stopped for a time to allow their liver to recover. Once their liver has recovered treatment will need to be started again - 'reintroduced'.

NICE TB guidelines recommend that all 4 drugs are reintroduced. The American Thoracic Society guidelines differ. These recommend that the drug pyrazinamide (Z) is left out, as it is thought to make DILI more likely. Although this three-drug treatment is still effective, it needs to be taken over nine months. This is more difficult for patients & more costly to the NHS. Currently, clinicians in the UK & globally choose between the two guidelines; some reintroduce Z whilst others do not.

This research will answer which of the 2 treatment options

- a) leads to fewer patients experiencing DILI?
- b) results in a better quality of life for patients?
- c) offers better use of limited NHS resources?

Who can participate?

Adults who experience DILI whilst on standard TB treatment

What does the study involve?

The research will be conducted over 4 years across a number of hospital clinics in the UK and India. The research will include 350 adults who experience DILI whilst on standard TB treatment, with 90 enrolled for each year of the study. Patients will be selected at random to be in either one of two groups for the study. One group will have 4 drugs reintroduced (i.e. including Z). The other group will have only 3 drugs reintroduced, (i.e. excluding Z). Patients and clinicians will know which treatment they are getting. The trial primary outcome will be a laboratory-based measure of the number of patients that experience the return of DILI.

Patients medical records are checked for DILI recurrence and their quality of life will be measured using the EQ5D.

What are the possible benefits and risks of participating?

Benefits:

Not provided at time of registration

Risks:

The TB-DILI Trial is comparing two standards of care that are already widely in use across the UK, because of this we do not expect there to be any additional risks or disadvantages to taking part in the trial.

Where is the study run from?

Nottingham Clinical Trials Unit (UK)

When is the study starting and how long is it expected to run for?

June 2022 to May 2026

Who is funding the study?

National Institute for Health and Care Research (NIHR) (UK).

Who is the main contact?

Dr Wei Shen Lim, weishen.lim@nhs.net

Contact information

Type(s)

Scientific

Contact name

Dr Garry Meakin

Contact details

Derby Road
Nottingham
United Kingdom
NG7 2RD
+44 115 8231609
TB-DILI@nottingham.ac.uk

Type(s)

Principal investigator

Contact name

Dr Wei Shen Lim

Contact details

Nottingham Clinical Trials Unit
Nottingham
United Kingdom
NG5 1PB
+44 1159691169
weishen.lim@nhs.net

Additional identifiers

Clinical Trials Information System (CTIS)

2020-004193-21

Integrated Research Application System (IRAS)

1005097

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

20RM006, IRAS 1005097

Study information

Scientific Title

Reintroduction of anti-tuberculosis therapy following drug-induced liver injury: a randomised controlled trial (TB-DILI)

Acronym

TB-DILI

Study objectives

The main purpose of the TB-DILI trial is to determine whether restarting TB treatment with only 3 drugs is safer for patients than restarting with 4 drugs. We will determine this by looking at how many patients on each treatment (restarted with 3 or 4 drugs) go on to experience a reoccurrence of DILI.

The trial will also look at which of the treatment options is more cost-effective for the NHS. At the end of this trial, we hope to be able to advise the NHS on the best way that doctors should treat future TB-DILI patients. Patients will be asked to complete quality of life questionnaires to look at the impact quality of life in the different treatment options.

Ethics approval required

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Ethics approval(s)

approved 03/08/2023, Tyne and Wear South REC (HRA Jarrow Room 001 Jarrow Business Centre Rolling Mill Road, Jarrow, NE32 3DT, United Kingdom; +44 207 1048282; tyneandwearsouth.rec@hra.nhs.uk), ref: 22/NE/0111

Study design

Interventional randomized controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Drug induced liver injury in patients receiving tuberculosis treatment.

Interventions

Eligible patients will be individually randomised on a 1:1 ratio to one of the treatment groups using an online randomisation system developed and maintained by the NCTU.

Intervention

Sequential full-dose reintroduction of a non-Z-containing 3-drug ATT regimen comprising ethambutol, isoniazid and rifampicin (EHR), as recommended by the American Thoracic Society (ATS) TB guideline.

Treatment duration is 9 months, patients are followed up post 12 months randomisation.

Control

Sequential full-dose reintroduction of a Z-containing 4-drug ATT regimen comprising ethambutol, isoniazid, rifampicin and pyrazinamide (EHRZ), as recommended by the National Institute for Health and Care Excellence (NICE) TB guideline.

Treatment duration is 6 months, patients are followed up post 12 months randomisation.

Patients will have a telephone follow-up at 9 months.

Intervention Type

Drug

Phase

Phase IV

Drug/device/biological/vaccine name(s)

Ethambutol, isoniazid, rifampicin, zinamide

Primary outcome(s)

DILI recurrence within 12 months following randomisation. DILI recurrence could occur at any timepoint during the treatment period. Sites will perform routine clinical assessments to determine a DILI this data will then be submitted for adjudication.

Key secondary outcome(s)

1. Severity of DILI recurrence measured using routine clinical assessments at 12 months
2. Physician rated clinical cure at end of treatment (EoT)
3. Clinical cure at 12 months
4. Total number of days on ATT at EoT
5. ATT adherence at EoT
6. Adverse event rate at EoT or at 12 months whichever is sooner
7. Mortality at 12 months
8. Quality of life assessed by EQ-5D-5L and healthcare resource use at 12 months

Completion date

13/05/2026

Eligibility

Key inclusion criteria

1. Aged ≥ 18 years
2. Experienced DILI with standard 4-drug ATT for active pulmonary or extra-pulmonary TB
3. Medically suitable
4. for re-introduction of standard 4-drug ATT

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Requirement for alternative ATT
2. Unable to provide written informed consent

Date of first enrolment

01/08/2022

Date of final enrolment

13/05/2025

Locations**Countries of recruitment**

United Kingdom

India

Study participating centre

Public Health Research Institute

Trivandrum

India

-

Sponsor information

Organisation

Nottingham Clinical Trials Unit

Funder(s)

Funder type

Government

Funder Name

National Institute for Health Research

Alternative Name(s)

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

The current data sharing plans for this study are unknown and will be available at a later date

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary	Participant information sheet		28/06/2023	No	No
Participant information sheet		11/11/2025	11/11/2025	No	Yes
Study website	Study website	11/11/2025	11/11/2025	No	Yes