

Randomised treatment of Acute Pancreatitis with Infliximab: Double-blind, placebo-controlled, multi-centre trial

Submission date 04/06/2018	Recruitment status Recruiting	☒ Prospectively registered ☐ Protocol
Registration date 08/06/2018	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 01/07/2026	Condition category Digestive System	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

Acute pancreatitis is a serious condition in which the pancreas becomes inflamed and is damaged. It causes intense abdominal pain and may lead to multiple organ failure. Those suffering from the disease may need help with breathing, heart and kidney function. One in twenty patients with acute pancreatitis dies, which is more likely to happen to those who develop organ failure. Treatment can be prolonged, often with extended stays in hospital of many weeks. To date many drugs have been tested to treat acute pancreatitis, but none cure the illness or accelerate recovery. This study tests a drug called infliximab, which is made from natural protein and is currently used to treat bowel and joint disease. Infliximab works by blocking an important process in the progression of the disease. This process leads to inflammation in both the pancreas and other parts of the body. The study also looks to see if there are any links between genes and the development of acute pancreatitis, and to see if there are any links between the genes and the way infliximab works. This may help target the right treatment to the right patients and help gain understanding of how infliximab works. If infliximab is beneficial in the treatment of acute pancreatitis, major improvements will be possible in the health of a large number of NHS patients, patient suffering and hospital waiting times will be reduced, and significant savings will be made to NHS costs.

Who can participate?

Adult patients attending A&E with acute pancreatitis

What does the study involve?

Participants are randomly allocated to receive a single, 2-hour infusion of either 5 mg/kg infliximab, 10 mg/kg infliximab, or placebo (dummy drug). Infliximab is given within half a day of a patient arriving in hospital, much earlier than with other drugs tested in acute pancreatitis. Whilst the patient is in hospital, information is recorded and blood samples are taken. Patients are followed up until Day 90 (Day 1 beginning from when the patient receives the trial infusion).

What are the possible benefits and risks of participating?

Acute pancreatitis is a common and serious disease that needs emergency admission to hospital,

but there are no medicines to cure the illness or speed up recovery. By taking part in this study, participants may find their symptoms of acute pancreatitis get better. Infliximab helps in bowel and joint disease and early research shows that infliximab may help patients with acute pancreatitis. The results of this study may help others with acute pancreatitis and will be valuable in developing new medicines to treat acute pancreatitis. Millions of patients in the world have been treated with infliximab for various diseases. Infliximab is a safe medicine and usually very well tolerated. Side effects from infliximab are uncommon. Most side effects occur with repeated doses of infliximab, unlike in this study which tests a single dose of infliximab. The two side effects that could occur with a single dose of infliximab, although unlikely, are allergic reactions (also known as infusion reactions) and infections. This study also requires exposures to ionising radiation. Depending on their clinical indications, participants will receive a chest x-ray at screening and a dual phase CT scan for the diagnosis and/or monitoring of pancreatitis. Depending upon the clinical indications, the number of CT scans as standard of care can vary but is likely to be less than three, although more may be performed if indicated. Participants will only receive one additional examination although it is noted that this examination may be performed as part of the standard of care.

Where is the study run from?

1. Royal Liverpool and Broadgreen University Hospitals NHS Trust (UK)
2. Glasgow Royal Infirmary (UK)
3. University Hospitals Birmingham NHS Foundation Trust (UK)
4. Leeds Teaching Hospital NHS Trust (UK)

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

June 2019 to March 2027

Who is funding the study?

National Institute for Health Research (NIHR) (UK)

Who is the main contact?

Rapid.One@liverpool.ac.uk

Contact information

Type(s)

Scientific

Contact name

Mr Matthew Smyth

Contact details

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Additional identifiers

ClinicalTrials.gov (NCT)

NCT03684278

Clinical Trials Information System (CTIS)

2017-003840-19

Protocol serial number

38354

Study information

Scientific Title

Phase IIb, randomised, double-blind, placebo-controlled, multi-centre trial of infliximab with transcriptomic biomarker and mechanism evaluation in patients with acute pancreatitis

Acronym

RAPID-I

Study objectives

Acute pancreatitis is a serious condition in which the pancreas becomes inflamed and is damaged. It causes intense abdominal pain and may lead to multiple organ failure. Those suffering from the disease may need help with breathing, heart and kidney function. One out of twenty patients with acute pancreatitis dies, which is more likely to happen to those who develop organ failure. Treatment can be prolonged, often with extended stays in hospital of many weeks. To date many drugs have been tested to treat acute pancreatitis, but none cure the illness or accelerate recovery. In this trial we are testing a drug called infliximab, which is made from natural protein and is currently used to treat bowel and joint disease. Infliximab works by blocking an important process in the progression of the disease. This process leads to inflammation in both the pancreas and other parts of the body. In the trial, infliximab is given once within half a day of a patient arriving in hospital, much earlier than with other drugs tested in acute pancreatitis. Whilst the patient is in hospital, information will be recorded and blood samples will be taken. Patients will be followed up for 90 days after trial treatment. The study will also look to see if there are any links between genes and the development of acute pancreatitis, and to see if there are any links between the genes and the way infliximab works. This may help target the right treatment to the right patients and help gain understanding of how infliximab works. If infliximab is beneficial in the treatment of acute pancreatitis, major improvements will be possible in the health of a large number of NHS patients, patient suffering and hospital waiting times will be reduced and significant savings will be made to NHS costs.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 04/07/2018, South Central - Oxford C Research Ethics Committee (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 02071048271; oxfordc.rec@hra.nhs.uk), ref: 18/SC/0262

Primary study design

Interventional

Study design

Randomised; Interventional; Design type: Treatment, Drug

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Acute pancreatitis

Interventions

Current interventions:

Participants will be randomised using an online web randomisation system, by a delegated member of the research team to receive a single, 2-hour infusion of either:

Arm A: 5 mg/kg infliximab

Arm B: 10 mg/kg infliximab (Following the recommendation of the Independent Data and Safety Monitoring Committee, the 10 mg/kg infliximab arm was stopped on 19/05/2026 owing to a lack of efficacy)

Arm C: placebo (0.9% sodium chloride)

Participants will be randomised to treatment allocations in a ratio of 1:1:1, stratified by individual research sites. Patients will only receive a single, 2-hour infusion of their treatment allocation. Infliximab is given within half a day of a patient arriving in hospital, much earlier than with other drugs tested in acute pancreatitis. Whilst the patient is in hospital, information will be recorded and blood samples will be taken. Patients will be followed up until Day 90 (Day 1 beginning from when the patient receives the trial infusion).

Previous interventions:

Participants will be randomised using an online web randomisation system, by a delegated member of the research team to receive a single, 2-hour infusion of either:

Arm A: 5 mg/kg infliximab

Arm B: 10 mg/kg infliximab

Arm C: placebo (0.9% sodium chloride)

Participants will be randomised to treatment allocations in a ratio of 1:1:1, stratified by individual research sites. Patients will only receive a single, 2-hour infusion of their treatment allocation. Infliximab is given within half a day of a patient arriving in hospital, much earlier than with other drugs tested in acute pancreatitis. Whilst the patient is in hospital, information will be recorded and blood samples will be taken. Patients will be followed up until Day 90 (Day 1 beginning from when the patient receives the trial infusion).

Intervention Type

Drug

Phase

Phase II

Drug/device/biological/vaccine name(s)

Infliximab

Primary outcome(s)

1. Mean serum C-reactive protein in either active arm (5 mg/kg or 10 mg/kg) versus the placebo arm measured using standard methods (summated as area under the curve) at Days 2, 4 (+/- 1 day) and 14 (+/- 2 days)

Previous primary outcome as of 01/07/2026:

The primary efficacy outcome measure will be the difference in mean serum C-reactive protein measured on Days 2, 4, 7, 14 and 28 (summated as area under the curve) in either active arm (5 mg/kg or 10 mg/kg) versus the placebo arm; Timepoint(s): End of the study

Key secondary outcome(s)

Current key secondary outcomes as of 01/07/2026:

1. Cumulative pain score measured using a numerical rating scale (between 0-10) for the first 28 days
2. Opiate requirements measured using the recording of daily morphine equivalents for the first 28 days
3. Nutritional deficit measured using the recording of the number of days without solid food for the first 28 days
4. Decline in serum albumin (negative AUC) measured using blood samples for the first 28 days
5. Rise in neutrophils (AUC) measured using blood samples for the first 28 days
6. Organ function, disease progression, and mortality risk measured using the cumulative Sequential Organ Failure Assessment (SOFA) score for the first 28 days
7. Local pancreatic injury measured using contrast-enhanced computerised tomography scan (CECT day 14 +/- 7 days)
8. Infection measured using selected data collection up until day 90
9. Length of stay measured using selected data collection up until day 90
10. Mortality measured using selected data collection up until day 90
11. Patient reported outcome measured using the EQ-5D-5L on Days 4 (+/- 1 day), 14 (+/- 2 days) and 90 (+/- 7 days).

Previous key secondary outcomes:

1. Cumulative Pain Scores: patients will complete a numerical rating scale (between 0-10) for the first 28 days
2. Opiate requirements: recording of daily morphine equivalents for the first 28 days
3. Nutritional deficit: number of days nil by mouth +/- nutritional support for the first 28 days
4. Decline in serum albumin, measured via blood samples for the first 28 days
5. Decline in haematocrit, measured via blood samples for the first 28 days
6. Rise in neutrophils, measured via blood samples for the first 28 days
7. Presence and duration of systemic inflammatory response syndrome, present (duration of response) or absent, for the first 28 days
8. Cumulative serial organ failure assessment (SOFA score) for the first 28 days
9. Local pancreatic injury, measured using a contrast-enhanced CT scan, assessed by a centralised panel on Day 14
10. Pancreatic sufficiency, measured by:
 - 10.1. Faecal elastase on Day 28 and Day 90
 - 10.2. HbA1c on Day 90
11. Severity classification, measured using the Revision of the Atlanta Classification (RAC), as and when classified
12. Infective complications, any complications reported, for the first 90 days
13. Length of hospital stay, length of time patients remain within the hospital as an inpatient, up to Day 90

14. Mortality within the first 90 days
15. Patient-reported outcome: patients will complete EuroQol EQ-5D-5L, including the EQ-VAS (visual analogue scale) questionnaire on Days 4, 14, 28 and 90
16. Potential safety signals, adverse events relating to infliximab, including infusion reactions and delayed serum sickness reactions, up to 90 days
17. Further safety signal, reports of significant increase in the incidence of infective complications associated with the use of infliximab over placebo, up to 90 days
18. Antibodies to infliximab assessed using blood sample analysis on Day 28
19. Absolute and/or relative expression of selected transcripts: blood samples collected for exploratory safety analyses using selected transcripts on Days 2, 4, 7, 14 and 28
20. Cytokine and leucocyte subsets profiles, assessed using blood sample analysis on Days 2, 4, 7, 14 and 28
21. Discriminant function (trial treatment versus placebo) of efficacy measures across domains: clinical, laboratory, critical care, local injury, infection, length of stay and patient reported outcome domains: selected data collected for the trial will be used for this outcome up until day 90
22. Incremental cost per quality adjusted life years (QALY) gained by trial treatment, measured using data from the EQ-5D-5L questionnaire on Days 4, 14, 28 and 90
23. Time to recruitment of target sample size (290 patients, anticipated to be 24 months). Please note as adaptive design is used target sample size may reduce.

Completion date

07/03/2027

Eligibility

Key inclusion criteria

Current participant inclusion criteria as of 01/07/2026:

1. Adult patients attending A&E at or admitted to recruiting hospitals via a General Practitioner with a new diagnosis of AP established by two of:
 - 1.1. Typical continuous upper abdominal pain
 - 1.2. Amylase and/or lipase three or more times the upper limit of normal
 - 1.3. Characteristic findings on abdominal imaging (if undertaken urgently by CT or magnetic resonance imaging, MRI);and
- 2) Patients in whom trial treatment can be started as soon as possible and within 36 hours of admission, allowing 120 min within the 36-hour period for preparation of trial medication; and
- 3) Patients from whom appropriate consent is obtained (consent to be given by the patient or their legal representative).

Previous participant inclusion criteria as of 14/08/2018:

1. Adult patients attending A&E at or admitted to recruiting hospitals via a general practitioner with a new diagnosis of AP established by two of:
 - 1.1. Typical continuous upper abdominal pain
 - 1.2. Amylase and/or lipase three or more times the upper limit of normal;
 - 1.3. Characteristic findings on abdominal imaging (if undertaken urgently by CT or magnetic resonance imaging, MRI);
2. Patients in whom trial treatment can be started within 12 hours of recorded admission and

allowing 120 min for pharmacy to prepare trial medication

3. Patients from whom appropriate consent is obtained (consent to be given by the patient or their legal representative).

Previous participant inclusion criteria:

1. Adult patients attending A&E at recruiting centres from whom appropriate consent is obtained (consent to be given by the patient or their legal representative)

2. Patients in whom trial treatment can be started within 12 hours of admission (allowing 120 min for Pharmacy to prepare trial medication)

3. A new diagnosis of AP (all severity levels) as established by two of:

3.1. Typical continuous upper abdominal pain

3.2. Amylase and/or lipase three or more times the upper limit of normal

3.3. Characteristic findings on abdominal imaging (if undertaken urgently)

NB Please note all severity levels of AP are to be included in the trial

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

18 Years

Upper age limit

85 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

Current exclusion criteria as of 01/07/2026:

1. Age <18 or >85

2. Patients with a body weight of over 200 kilograms

3. Known previous AP diagnosed within the last 30 days or known chronic pancreatitis

4. Known multiple sclerosis, systemic vasculitis, Guillain-Barré syndrome or other demyelinating disorder

5. Known epilepsy

6. Moderate to severe heart failure and/or coronary heart disease (New York Heart Association (NYHA) Functional Class III/IV)

7. Known severe respiratory conditions, including cystic fibrosis, severe asthma and severe chronic obstructive pulmonary disease (COPD), on home oxygen or home mechanical ventilation

8. Jaundice (serum bilirubin >50 µmol/L), and/or known advanced liver disease, on waiting list for liver transplantation or considered unsuitable for transplantation

9. Known cancer for which chemotherapy and/or radiotherapy is ongoing or was completed

within less than 6 months from admission

10. Known haematological malignancy

11. Known cancer that is end-stage with ongoing palliative care or for which palliative care is appropriate

12. Known established infection prior to or suspected infection, including COVID-19§, at the time of AP onset

13. Known history of (including that identified on chest x-ray) or household contact with individuals who have tuberculosis or opportunistic infection

14. Known history of infective hepatitis (unless recovered from previous hepatitis A)

15. Known rare diseases or inborn errors of metabolism that significantly increase the risk of infections, including severe combined immunodeficiency (SCID) and homozygous sickle cell disease

16. Known immunosuppressive or biologic therapy within one month of admission

17. Known live vaccines or therapeutic infectious agents within one month of admission

18. Known hypersensitivity to infliximab or to inactive components of infliximab or to any murine proteins

19. Known pregnancy or lactation at the time of admission

20. Women of childbearing potential who do not agree to use adequate contraception (includes prior surgical sterilisation; birth control pill, patch or injection; intrauterine device; male or female condom (but not both); female cap with spermicide or total sexual abstinence; but not periodic abstinence, withdrawal or spermicides only), up to 6 months after trial infusion treatment

21. Known to be currently participating in a trial testing any investigational medicinal product or participation in a clinical study involving a medicinal product in the last three months

Previous key exclusion criteria:

1. Age < 18 or > 85

2. Body weight > 200 kg

3. Onset of abdominal pain more than 24 hours before admission to the hospital

4. Known previous acute pancreatitis or chronic pancreatitis

5. Known multiple sclerosis, systemic vasculitis, Guillain-Barré syndrome or other demyelinating disorder

6. Known epilepsy

7. Moderate to severe heart failure and/or coronary heart disease (New York Heart Association (NYHA) Functional Class III/IV)

8. On home oxygen or home mechanical ventilation

9. Known advanced liver disease, on waiting list for liver transplantation or considered unsuitable for transplantation

10. Known cancer for which chemotherapy and/or radiotherapy is ongoing or was completed within less than 6 months from admission

11. Known haematological malignancy

12. Known cancer that is end-stage with ongoing palliative care or for which palliative care is appropriate

13. Known established infection prior to the onset of acute pancreatitis

14. Known history of (including that identified on chest x-ray) or household contact with individuals who have tuberculosis or opportunistic infection

15. Known history of infective hepatitis

16. Known immunosuppressive or biologic therapy within one month of admission

17. Known live vaccines or therapeutic infectious agents within one month of admission

18. Known hypersensitivity to infliximab or to inactive components of REMICADE® or to any murine proteins

19. Known pregnancy or lactation at the time of admission

20. Women of childbearing potential who do not agree to use adequate contraception up to Day 90

21. Known to be currently participating in a trial testing any investigational medicinal product or participation in a clinical study involving a medicinal product in the last three months

Date of first enrolment

05/06/2019

Date of final enrolment

30/11/2026

Locations

Countries of recruitment

United Kingdom

England

Scotland

Wales

Study participating centre

Royal Liverpool and Broadgreen University Hospitals NHS Trust (Lead Site)

Royal Liverpool University Hospital

Prescot Street

Liverpool

England

L7 8XP

Study participating centre

Leeds Teaching Hospital NHS Trust

St James's University Hospital

Beckett Street

Leeds

England

LS9 7TF

Study participating centre

John Radcliffe Hospital

Headley Way

Headington

Oxford

England

OX3 9DU

Study participating centre
Aberdeen Royal Infirmary
Foresterhill Road
Aberdeen
Scotland
AB25 2ZN

Study participating centre
University Hospital Aintree
Fazakerley Hospital
Lower Lane
Liverpool
England
L9 7AL

Study participating centre
University College London Hospital
250 Euston Road
London
England
NW1 2PG

Study participating centre
Royal Devon and Exeter Hospital
Gladstone Road
Exeter
England
EX1 2ED

Study participating centre
University Hospital of Wales
Heath Park
Cardiff
England
CF14 4XW

Study participating centre

University Hospital of North Tees
Hardwick Road
Stockton-on-tees
England
TS19 8PE

Sponsor information

Organisation
University of Liverpool

ROR
<https://ror.org/04xs57h96>

Funder(s)

Funder type
Government

Funder Name
NIHR Evaluation, Trials and Studies Co-ordinating Centre (NETSCC); Grant Codes: 15/20/01

Results and Publications

Individual participant data (IPD) sharing plan

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			28/06/2023	No	No