

Understanding the impact of treatments for inflammatory bowel disease on immune responses to SARS-CoV2 vaccination

Submission date 26/10/2021	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 13/12/2021	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 21/01/2025	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Vaccination is likely to be a key weapon to protect the health of the world's population from COVID19 and is likely to be especially important in high risk individuals, such as those with pre-existing conditions including Inflammatory bowel disease (IBD).

Many IBD patients take immunosuppressive drugs, which leaves them vulnerable to infection. However, the risks associated with immunosuppression are not limited to increased susceptibility to infection. Immunosuppressive drugs may reduce the effectiveness of some vaccines, which could have major implications for the safety of immunosuppressed patients in the COVID-19 era.

The ultimate purpose of this study is to determine whether patients on different immunosuppressive drugs have impaired immune responses to SARS-CoV-2 vaccination. We will also investigate important mechanisms of successful vaccination and identify predictors of vaccination failure. This information will help planning for treatment and vaccination of immunosuppressed patients in the future.

Who can participate?

Patients with or without IBD who are on immunosuppressive medication and are receiving vaccination against SARS-CoV2

What does the study involve?

VIP is a prospective observational study to be conducted in IBD patients undergoing vaccination against SARS-CoV-2 at multiple centres across the United Kingdom. 600 IBD patients on different IBD medication (immunomodulators, anti-TNFs, combination immunomodulator and anti-TNF, Vedolizumab, Ustekinumab and Tofacitinib), and 200 healthy participants will be recruited. We will measure antibody levels and how the immune system responds to the vaccine over time. We will follow participants over two study visits at 60 days after the second dose of vaccine and 35-42 days after the third dose of vaccine.

What are the possible benefits and risks of participating?

The information we get from this study might help us to improve vaccination for patients on immunosuppressive treatments in the future. The findings may also help to inform government policies such as shielding for immunosuppressed patients. Travel costs for attending the research centre will be covered, a maximum of £20 per research visit will be offered. No significant risks to participants are anticipated. There may be bruising and discomfort at the site of the blood test, as with any blood test. The amount of blood you will donate is small enough that it should not make you feel faint or cause a low blood count.

Where is the study run from?

Imperial College London (UK)

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

March 2021 to June 2022

Who is funding the study?

Pfizer (USA)

Who is the main contact?

Dr James Alexander, j.alexander@imperial.ac.uk

Study website

<https://www.vipstudy.uk>

Contact information

Type(s)

Public

Contact name

Dr James Alexander

ORCID ID

<http://orcid.org/0000-0001-8542-327X>

Contact details

10th floor Commonwealth Building Hammersmith Campus

Du Cane Road

London

United Kingdom

W12 0HS

+44 (0)20 7589 5111

j.alexander@imperial.ac.uk

Additional identifiers

EudraCT/CTIS number

Nil known

IRAS number

292123

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

IRAS 293123

Study information

Scientific Title

SARS-CoV2 Vaccination immunogenicity in Immunosuppressed inflammatory bowel disease Patients

Acronym

VIP

Study objectives

- Concentrations of anti-SARS-CoV2 antibodies following vaccination will be reduced in IBD patients prescribed anti-TNF therapy and other immunosuppressive agents.
- The durability of antibodies against SARS-CoV2 following vaccination will be reduced in IBD patients prescribed anti-TNF therapy and other immunosuppressive agents.
- SARS-CoV2 antigen-specific T-cell responses following vaccination will be reduced in IBD patients prescribed anti-TNF therapy anti-TNF therapy and other immunosuppressive agents.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 18/03/2021, Wales Research Ethics Committee 5 (Health and Care Research Wales, Castlebridge 4,15-19 Cowbridge Road East, Cardiff, CF11 9AB, UK; +44 (0)1874 615950 Wales. REC5@wales.nhs.uk), ref 21/WA/0105

Study design

Prospective observational clinical study

Primary study design

Observational

Secondary study design

Longitudinal study

Study setting(s)

Hospital

Study type(s)

Other

Participant information sheet

<https://www.vipstudy.uk/info>

Health condition(s) or problem(s) studied

Immune responses to SARS-CoV-2 vaccination in immunosuppressed inflammatory bowel disease patients.

Interventions

600 IBD patients will be recruited stratified according to the immunosuppressive medication they are on. Patients must have been for at least 3 months on the following treatments: thiopurines (n=100), infliximab (anti-TNF) (n=100), combination infliximab/thiopurines (n=100), vedolizumab (n=100), ustekinumab (n=100) and tofacitinib (n=100). 200 healthy people without IBD will also be recruited.

Following pre-screening, participants will be consented and enrolled in the study. Details including IBD phenotype, patient demographics and disease activity will be collected via the patient questionnaires, which will be completed after study consent is given.

40mL blood draw will be sampled at 2 time points, after 2nd dose of vaccination (days 60- 85), and 35-42 days post third dose of vaccine, to assess serology and T-cell responses.

Intervention Type

Biological/Vaccine

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Not provided at time of registration

Primary outcome measure

Immunogenicity to routinely administered SARS-CoV2 vaccination at day 60-85 post second dose of vaccination, measured as the geometric mean titre of Anti-SARS-CoV-2 spike (S) antibodies (Roche Elecsys immunoassay) in IBD patients on immunosuppressive treatment regimens compared to non-IBD control participants.

Secondary outcome measures

1. Immunogenicity to vaccination at the first visit (between days 60- 85) post second dose of vaccination, measured as the geometric mean titres of S1 binding IgG and RBD IgG antibodies in IBD patients on immunosuppressive treatment regimens compared to non-IBD control participants.
2. Immunogenicity to a third dose (or booster dose) of vaccination at the second visit, 35-42 days (+/- 7 days) following the third dose, measured as the geometric mean titres of neutralising anti-SARS-CoV2 antibodies, S1-binding IgG antibodies and RBD IgG antibodies in IBD patients.
3. Proportion of IBD patients on immunosuppressive treatment regimens compared to non-IBD control participants with seroprotection against SARS-CoV2 at the first visit (between days 60-85) and at the second visit (35-42 days following third dose of vaccine).
4. Adaptive immune response to vaccination measured using T cell assays and longitudinal transcriptomics in each study arm.

Overall study start date

18/03/2021

Completion date

01/06/2022

Eligibility

Key inclusion criteria

1. Adults (aged ≥ 18 years)
2. Established diagnosis of CD or UC using standard definitions of IBD or healthy people without IBD.
3. Established on current immunosuppressive regimen (as listed in 'study subjects' section) for at least 12 weeks. This criteria does not apply to healthy participants without IBD.
4. Receiving vaccination against SARS-CoV2
5. Able to give informed consent.

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Sex

Both

Target number of participants

600-800

Total final enrolment

483

Key exclusion criteria

1. Unable to give informed consent
2. Patients < 18 years of age
3. Recipients of 'accelerated dosing' of vaccination (i.e. second dose of SARS-CoV-2 vaccination given within 42 days of first dose).
4. Patients on any other immune suppressants to those listed in study subjects section (other than oral steroids).
5. Excluded medication includes:
 - 5.1. adalimumab
 - 5.2. golimumab
 - 5.3. certolizumab
 - 5.4. mesazaline
 - 5.5. mycophenolate
 - 5.6. tacrolimus
 - 5.7. thalidomide
 - 5.8. ciclosporin
 - 5.9. cyclophosphamide
 - 5.10. hydroxychloroquine
 - 5.11. leflunomide

5.12. methotrexate
5.13. mycophenolate
5.14. sulfasalazine

Date of first enrolment

28/05/2021

Date of final enrolment

01/01/2022

Locations

Countries of recruitment

England

Scotland

United Kingdom

Study participating centre

Hammersmith Hospital

Imperial Healthcare NHS Trust

Du Cane Road

London

United Kingdom

W12 0HS

Study participating centre

Western General Hospital

Crewe Road

Edinburgh

United Kingdom

EH4 2XU

Study participating centre

Royal Devon and Exeter Hospital

Exeter

United Kingdom

EX2 5DW

Study participating centre

Cambridge University Hospitals NHS Foundation Trust

Hills Road

Cambridge
United Kingdom
CB2 0QQ

Study participating centre

St. Mark's Hospital

Watford Road
Harrow
United Kingdom
HA1 3UJ

Study participating centre

Bart's Health NHS Trust

Whitechapel Road
Whitechapel
London
United Kingdom
E1 1BB

Sponsor information

Organisation

Imperial College London

Sponsor details

Joint Research Compliance Office
Imperial College London and Imperial College Healthcare NHS Trust
Room 215, Level 2, Medical School Building
Norfolk Place
London
England
United Kingdom
W2 1PG
+44 (0)207 594 9459
becky.ward@imperial.ac.uk

Sponsor type

University/education

Website

<https://www.imperial.ac.uk/joint-research-compliance-office>

ROR

Funder(s)

Funder type

Industry

Funder Name

Pfizer

Alternative Name(s)

Pfizer Inc., Pfizer Consumer Healthcare, Davis, Charles Pfizer & Company, Warner-Lambert, King Pharmaceuticals, Wyeth Pharmaceuticals, Seagen

Funding Body Type

Government organisation

Funding Body Subtype

For-profit companies (industry)

Location

United States of America

Results and Publications

Publication and dissemination plan

Planned publication in a high-impact peer-reviewed journal

Intention to publish date

01/12/2022

Individual participant data (IPD) sharing plan

Individual participant deidentified data that underlie the results reported in this study will be available immediately after publication for a period of 5 years. The data will be made available to investigators whose proposed use of the data has been approved by an independent review committee. Analyses will be restricted to the aims in the approved proposal. j.

alexander@imperial.ac.uk

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file	version 1.7	12/10/2021	27/10/2021	No	No

Interim results article	03/02/2022	07/02/2022	Yes	No
HRA research summary		28/06/2023	No	No
Results article	01/04/2022	18/07/2023	Yes	No
Results article	01/11/2022	18/07/2023	Yes	No
Results article	01/02/2023	18/07/2023	Yes	No
Results article	05/10/2023	16/10/2023	Yes	No
Results article	23/04/2024	21/01/2025	Yes	No