

# Clinical efficacy and mechanistic evaluation of Eplerenone for central serous chorio-retinopathy – the VICI randomised trial

<b>Submission date</b> 04/05/2016	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 06/05/2016	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 08/07/2025	<b>Condition category</b> Eye Diseases	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Central serous chorio-retinopathy (CSCR) is a poorly understood eye disease involving the retina. The retina is a layer of light-sensitive cells at the back of the eye which are responsible for converting light into electrical signals that are carried to the brain, where they are interpreted as the images we see. In CSCR, fluid (which leaks from a layer of tissue underneath the retina called the choroid) builds up under the retina causing vision to become distorted and leading to vision loss in around a third of cases. The exact cause of CSCR is unknown however there does appear to be a genetic link, as it often appears in members of the same family. Currently, there are no proven effective treatments. Recently a few patients have responded to treatment with a drug called eplerenone, which removes the fluid buildup and improves vision. However, information on the long term benefit and safety of this drug is lacking. The aim of this study is to test the effectiveness of eplerenone in the treatment of CSCR.

### Who can participate?

Adults with visual impairment due to central serous chorio-retinopathy (CSCR)

### What does the study involve?

Participants are randomly allocated to be treated with either a capsule containing eplerenone or a placebo capsule containing no active ingredients. For patients in the eplerenone group, a dosage of 25 mg per day is given, which can be increased to 50mg after one week if tolerated. Participants attend study visits at four weeks and then three, six, nine and twelve months. At each visit, participants undergo sight tests, an eye examination, completing a number of questionnaires, as well as having blood samples taken. Participants are also asked for permission to take an additional blood sample at their first visit, so that the genetic material and other components from their blood can be stored for a future study. If the CSCR has resolved at any of these visits, the treatment is stopped (it can be restarted if it reoccurs).

### What are the possible benefits and risks of participating?

There is no guarantee that the treatment used in this study will help individual participants, however the information from the results could help patients in the future. There are side

effects associated with eplerenone usage but these will be managed through regular patient and safety data monitoring. There is also a small risk of pain or bruising during and after blood tests.

Where is the study run from?

Twenty hospitals in England and Ireland (UK)

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

January 2016 to April 2019

Who is funding the study?

National Institute for Health Research (UK)

Who is the main contact?

Prof. Andrew Lotery

a.j.lotery@soton.ac.uk

## Contact information

### Type(s)

Public

### Contact name

Prof Andrew Lotery

### Contact details

Chief Investigator

Clinical and Experimental Sciences

Faculty of Medicine

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Mailpoint 806, Level D

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Southampton

United Kingdom

SO16 6YD

+44 (0)23 8120 5049

a.j.lotery@soton.ac.uk

## Additional identifiers

### EudraCT/CTIS number

2016-000113-70

### IRAS number

### ClinicalTrials.gov number

### Secondary identifying numbers

20848

# Study information

## Scientific Title

Clinical efficacy and mechanistic evaluation of Eplerenone for central serous chorio-retinopathy – the VICI randomised trial

## Acronym

VICI

## Study objectives

The aim of the study is to compare the efficacy and safety of eplerenone with usual care versus placebo with usual care in the treatment of chronic Central serous chorio-retinopathy (CSCR).

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

Wales Research Ethics Committee 1, 30/04/2016, ref: 16/WA/0069

Amendment 1 received 04/07/2016; Amendment 2 received 15/11/2016; Amendment 3 received 06/02/2017; Amendment 4 received 23/03/2017; Amendment 5 received 13/04/2017; Amendment 6 approved 22/03/2018.

## Study design

Randomised; Interventional; Design type: Treatment, Drug

## Primary study design

Interventional

## Secondary study design

Randomised controlled trial

## Study setting(s)

Hospital

## Study type(s)

Treatment

## Participant information sheet

Not available in web format, please use the contact details below to request a patient information sheet

## Health condition(s) or problem(s) studied

Specialty: Ophthalmology, Primary sub-specialty: Glaucoma; UKCRC code/ Disease: Eye/ Disorders of choroid and retina

## Interventions

Patients who consent will be randomised using an online system to active drug (Eplerenone) or placebo. They will be given a 25-mg dose (tablet form) for 1 week, reviewed and if tolerated the dose will be increased to 50 mg. They will be reviewed again at 4 weeks and then every 3 months for a year. Their vision will be assessed using visual acuity (letter charts) and specialised

ophthalmic imaging, as well as quality of life questionnaires at the start and the end of the study. Treatment will be stopped at week 4, months 3, 6, 9 or 12 if there is complete resolution of sub-retinal fluid (SRF) under the fovea in the study eye. Treatment will be restarted at a subsequent visit if there is recurrence of sub-foveal SRF. The same dose escalation process will apply on restarting treatment. Treatment will be stopped for individual patients if they develop a complication of taking eplerenone. Also if at any of study visits visual acuity drops by 15 or more letters, the ophthalmologist may consider alternative therapies and may decide to stop the study intervention.

## **Intervention Type**

Other

## **Phase**

Phase III

## **Primary outcome measure**

Primary outcome as of 23/01/2017:

Best Corrected Visual Acuity measured using validated ETDRS vision charts, at the 12 month visit, adjusted for baseline BCVA.

Original primary outcome:

The change in Best Corrected Visual Acuity measured using validated ETDRS vision testing at baseline, 4 weeks, 3, 6, 9 and 12 months.

## **Secondary outcome measures**

Current secondary outcomes as of 05/03/2019:

1. Low luminance BCVA. This is measured immediately after measuring BCVA by adding a 2 log neutral density filter and recording the number of letters read.
2. CSRT as measured by OCT recorded at 12 months, including CSRT measured at interim visits and adjusted for baseline CSRT.
3. Change in sub-retinal fluid thickness as measured by OCT
4. Systemic and ocular adverse events at any time during the 12 month follow-up period
5. Proportion of patients with macular atrophy of the RPE defined as hypoautofluorescence at 12 months
6. Area change in macular RPE hypoautofluorescence at 12 months.
7. Choroidal thickness as measured by enhanced depth imaging OCT at 12 months, adjusted for baseline choroidal thickness. Measurements to be made sub-foveally.
8. Proportion of patients with reduced choroidal permeability on ICG at 12 months
9. Time to resolution of SRF.
10. Classification of all study eyes as complete, partial or no resolution of SRF at each time point of the study. Partial resolution of SRF is defined as a decrease of >25 % of CMT from baseline. A non-responder is defined as having an increase in SRF or decrease in SRF  $\leq 25\%$  from baseline.
11. Patient-reported visual function using Visual Function Questionnaire VFQ 25 will be assessed at baseline and 12 months.
12. Classification of all study eyes by each FFA phenotype, such as smoke stack, ink-blot and chronic epitheliopathy at baseline and 12 months.
13. Classification of all study eyes as early, late, or non responder. An early responder is defined as complete or partial resolution of sub-foveal SRF by 3 months. A late responder is defined as complete or partial resolution of sub-foveal SRF after 6 months.

14. Incidence of CSCR in the fellow eye as measured by OCT, FFA, ICGA or AF.
15. Time to recurrence of SRF. Recurrence will be defined as the appearance of new SRF in a study eye after complete resolution of SRF at any point.

Previous secondary outcomes as of 05/03/2019:

1. Low luminance BCVA. This is measured immediately after measuring BCVA by adding a 2 log neutral density filter and recording the number of letters read.
2. CSRT as measured by OCT recorded at 12 months, including CSRT measured at interim visits and adjusted for baseline CSRT.
3. Change in sub-retinal fluid thickness as measured by OCT
4. Systemic and ocular adverse events at any time during the 12 month follow-up period
5. Proportion of patients with macular atrophy of the RPE defined as hypoautofluorescence at 12 months
6. Area change in macular RPE hypoautofluorescence at 12 months.
7. Choroidal thickness as measured by enhanced depth imaging OCT at 12 months, adjusted for baseline choroidal thickness. Measurements to be made sub-foveally.
8. Proportion of patients with reduced choroidal permeability on ICG at 12 months
9. Time to resolution of SRF.
10. Classification of all study eyes as complete, partial or no resolution of SRF at each time point of the study. Partial resolution of SRF is defined as a decrease of >25 % of CMT from baseline due to resolution of SRF. A non-responder is defined as having an increase in SRF or decrease in SRF  $\leq 25\%$  from baseline. Recurrence will be defined as the appearance of new SRF in a study eye after complete resolution of SRF at any point.
11. Patient-reported visual function using Visual Function Questionnaire VFQ 25 will be assessed at baseline and 12 months.
12. Classification of all study eyes by each FFA phenotype, such as smoke stack, ink-blot and chronic epitheliopathy
13. Classification of all study eyes as early, late, or non responder. An early responder is defined as complete or partial resolution of sub-foveal SRF by 3 months. A late responder is defined as complete or partial resolution of sub-foveal SRF after 6 months.
14. Incidence of CSCR in the fellow eye as measured by OCT, FFA, ICGA or AF.

Previous secondary outcomes as of 12/01/2017:

1. Low luminance visual acuity is measured immediately after measuring BCVA at baseline, 4 weeks, 3, 6, 9 and 12 months by adding a 2 log neutral density filter and recording the number of letters read
2. Central subfield retinal thickness (CSRT) as measured by optical coherence tomography (OCT) estimated at 12 months, including CSRT measured at interim visits and adjusted for baseline CSRT
3. Change in sub-retinal fluid (SRF) thickness as measured by OCT at 12 months
4. Systemic and ocular adverse events at any time during the 12 month follow-up period
5. Proportion of patients with macular atrophy of the Retinal pigment epithelium (RPE) defined as hypoautofluorescence at 12 months
6. Area change in macular RPE hypoautofluorescence at 12 months
7. Choroidal thickness as measured by enhanced depth imaging OCT at 12 months, adjusted for baseline choroidal thickness
8. Proportion of patients with reduced choroidal permeability on Indocyanine green angiography at 12 months
9. Time to resolution of SRF as measured by OCT at 4 weeks, 3, 6, 9 and 12 months
10. Proportion of patients with complete resolution of SRF at each time point of the study
11. Patient-reported visual function using Visual Function Questionnaire VFQ 25 will be assessed at baseline and 12 months

12. Classification of all study eyes as complete, partial or no resolution of SRF at each time point of the study. Partial resolution of SRF is defined as a decrease of >25 % of CMT from baseline due to resolution of SRF. A non-responder is defined as having an increase in SRF or decrease in SRF  $\leq 25\%$  from baseline. Recurrence will be defined as the appearance of new SRF in a study eye after complete resolution of SRF at any point.

13. Classification of all study eyes by each FFA phenotype, such as smoke stack, ink-blot and chronic epitheliopathy, is assessed at baseline

14. Classification of all study eyes as early, late, or non responder. An early responder is defined as complete or partial resolution of sub-foveal SRF by 3 months. A late responder is defined as complete or partial resolution of sub-foveal SRF after 6 months

15. Incidence of CSCR in the fellow eye as measured by OCT, FFA, ICGA or AF at baseline, 4 weeks, 3, 6, 9 and 12 months

Original secondary outcomes:

1. Low luminance visual acuity is measured immediately after measuring BCVA at baseline, 4 weeks, 3, 6, 9 and 12 months by adding a 2 log neutral density filter and recording the number of letters read

2. Central subfield retinal thickness (CSRT) as measured by optical coherence tomography (OCT) estimated at 12 months, including CSRT measured at interim visits and adjusted for baseline CSRT

3. Change in sub-retinal fluid (SRF) volume as measured by OCT at 12 months

4. Systemic and ocular adverse events at any time during the 12 month follow-up period

5. Proportion of patients with macular atrophy of the Retinal pigment epithelium (RPE) defined as hypoautofluorescence at 12 months

6. Area change in macular RPE hypoautofluorescence at 12 months

7. Choroidal thickness as measured by enhanced depth imaging OCT at 12 months, adjusted for baseline choroidal thickness

8. Proportion of patients with reduced choroidal permeability on Indocyanine green angiography at 12 months

9. Time to resolution of SRF as measured by OCT at 4 weeks, 3, 6, 9 and 12 months

10. Proportion of patients with complete resolution of SRF at each time point of the study

11. Patient-reported visual function using Visual Function Questionnaire VFQ 25 will be assessed at baseline and 12 months

12. Correlation of final visual acuity (12 months) with age of patient

13. Correlation of presence of granular/confluent hypoautofluorescence in macula with final visual acuity at 12 months

14. Proportion of each Fundus Fluorescein angiogram phenotype such as smoke stack, ink-blot and chronic epitheliopathy at 12 months

**Overall study start date**

01/01/2016

**Completion date**

31/07/2019

## Eligibility

**Key inclusion criteria**

Inclusion criteria as of 12/01/2017:

1. Aged between 18 and 60 years

2. Visual impairment due to CSCR of  $\geq 4$  months duration defined as:

2.1. Subfoveal presence of SRF on OCT

AND

2.2. Characteristic appearance of CSCR on FFA and Indocyanine-green angiography (ICGA).

AND

2.3. Investigator believes that there is sufficient evidence from patient history, case note documentation or appearance of the macula that CSCR has been present for at least 4 months

3. Women must be willing to use effective contraception, be surgically sterile or post-menopausal for >12 months

4. Able to provide written informed consent

The following additional inclusions apply to a study eye only (i.e. they may be present for a non-study eye):

1. A study eye should have an Early Treatment Diabetic Retinopathy Study (ETDRS) BCVA score greater than 53 letters and less than 86 letters

2. A study eye should have clear ocular media and adequate pupillary dilatation to permit photography

It is rare but not impossible for patients to present with CSCR in both eyes or CSCR may develop in the fellow eye during the trial. We propose to measure eye-specific outcomes such as BCVA in both eyes throughout the trial, designating eyes as study eyes or not. Statistical analyses will take into account the availability of data for two eligible eyes in one patient. If both eyes present with CSCR at baseline, the clinical trial site will decide which is the primary eye and this eye will have retinal imaging performed first. The primary eye would usually be the one with most active disease/most subretinal fluid. It will be identified by OCT imaging and subsequent investigations such as fluorescein and indocyanine green angiography will then be performed initially on this eye. If a patient presents with one affected eye and the fellow eye subsequently develops CSCR the eye first affected will always be the primary study eye.

Original inclusion criteria:

1. Aged between 18 and 60 years

2. Visual impairment due to central serous chorio-retinopathy (CSCR) of  $\geq 4$  months duration defined as:

2.1. Subfoveal presence of sub-retinal fluid (SRF) on OCT

AND

2.2. Characteristic appearance of CSCR on FFA and Indocyanine-green angiography (ICGA).

3. Women must be willing to use effective contraception, be surgically sterile or post-menopausal for >12 months

4. Able to provide written informed consent

The following additional inclusions apply to a study eye only (i.e. they may be present for a non-study eye):

5. A study eye should have an Early Treatment Diabetic Retinopathy Study (ETDRS) BCVA score greater than 53 letters and less than 79 letters

6. A study eye should have clear ocular media and adequate pupillary dilatation to permit photography

It is rare but not impossible for patients to present with CSCR in both eyes or CSCR may develop in the fellow eye during the trial. We propose to measure eye-specific outcomes such as BCVA in both eyes throughout the trial, designating eyes as study eyes or not. Statistical analyses will take into account the availability of data for two eligible eyes in one patient. If both eyes present with CSCR at baseline, the clinical trial site will decide which is the primary eye and this eye will have retinal imaging performed first. The primary eye would usually be the one with

most active disease/most subretinal fluid. It will be identified by OCT imaging and subsequent investigations such as fluorescein and indocyanine green angiography will then be performed initially on this eye. If a patient presents with one affected eye and the fellow eye subsequently develops CSCR the eye first affected will always be the primary study eye.

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Sex**

Both

**Target number of participants**

Planned Sample Size: 104; UK Sample Size: 104

**Key exclusion criteria**

Exclusion criteria as of 12/01/2017:

1. Hyperkalaemia (serum potassium level > 5.0 mmol/L)
2. Hepatic or renal impairment (Patients with severe renal insufficiency (Estimated glomerular filtration rate, eGFR <30 mL per minute per 1.73 m<sup>2</sup>) or Patients with severe hepatic insufficiency (Child-Pugh Class C)
3. Pregnancy or breast feeding
4. Known allergy to fluorescein or indocyanine green
5. Patients receiving potassium-sparing diuretics, potassium-supplements, or inhibitors of CYP 3A4 (e.g. amiodarone, diltiazem, fluconazole, itraconazole, ketoconazole, ritonavir, nelfinavir, saquinavir, clarithromycin, telithromycin, erythromycin, verapamil, spironolactone and nefazodone)). Patients taking furosemide are eligible.
6. Patients receiving the combination of an angiotensin converting enzyme (ACE) inhibitor and an angiotensin receptor blocker (ARB)
7. Patients receiving high doses of aspirin (>75mg)
8. Patients receiving nonsteroidal anti-inflammatory drugs (NSAIDs) (e.g. ibuprofen, naproxen).
9. Patients receiving lithium, cyclosporine or tacrolimus.
10. Hypersensitivity or known allergy to eplerenone or to any of the excipients.
11. Known hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption.

The following additional exclusions apply to a study eye only (i.e. they may be present for a non-study eye):

1. Evidence of choroidal neovascularization
2. Previous or current treatment with eplerenone for any reason or previous or current treatment with photodynamic laser therapy / any anti-VEGF therapy in the study eye / any intra-ocular steroid use / thermal laser therapy for CSCR
3. Presence of any other disease which could cause retinal fluid or SRF to accumulate (e.g. diabetic retinopathy, polypoidal choroidal vasculopathy, domed shaped maculopathy or choroidal haemangioma) or affect visual acuity
4. Myopia > -6 dioptries



Original exclusion criteria:

1. Hyperkalaemia (serum potassium level > 5.0 mmol/L)
2. Concomitant use of potassium-sparing diuretics or potassium supplements
3. Hepatic or renal impairment (Patients with severe renal insufficiency (Estimated glomerular filtration rate, eGFR <30 mL per minute per 1.73 m<sup>2</sup>) or Patients with severe hepatic insufficiency (Child-Pugh Class C)
4. Pregnancy or breast feeding
5. Known allergy to fluorescein or indocyanine green
6. Patients receiving potassium-sparing diuretics, potassium-supplements or strong inhibitors of CYP 3A4 (e.g. itraconazole, ketoconazole, ritonavir, nelfinavir, clarithromycin, telithromycin and nefazodone))
7. Patients receiving the combination of an angiotensin converting enzyme (ACE) inhibitor and an angiotensin receptor blocker (ARB) with eplerenone

The following additional exclusions apply to a study eye only (i.e. they may be present for a non-study eye):

8. Evidence of choroidal neovascularization
9. Previous treatment with photodynamic laser therapy / any anti-VEGF therapy in the study eye / any intra-ocular steroid use / previous thermal laser therapy for CSCR
10. Presence of any other disease which could cause retinal or SRF to accumulate e.g. diabetic retinopathy, polypoidal choroidal vasculopathy, domed shaped maculopathy or choroidal hemangioma
11. Myopia > -6 dioptries

**Date of first enrolment**

15/12/2016

**Date of final enrolment**

28/02/2018

## **Locations**

**Countries of recruitment**

England

Northern Ireland

United Kingdom

**Study participating centre**

**Royal Victoria Hospital**

274 Grosvenor Road

Belfast

United Kingdom

BT12 6BA

**Study participating centre**

**Royal Blackburn Hospital**

Haslingden Road  
Blackburn  
United Kingdom  
BB2 3HH

**Study participating centre**

**Bradford Royal Infirmary**

Duckworth Lane  
Bradford  
United Kingdom  
BD9 6RJ

**Study participating centre**

**Royal Sussex County Hospital**

Eastern Road  
Brighton  
United Kingdom  
BN2 5BE

**Study participating centre**

**Bristol Eye Hospital**

Lower Maudlin Street  
Bristol  
United Kingdom  
BS1 2LX

**Study participating centre**

**Walsgrave General Hospital**

Clifford Bridge Road  
Coventry  
United Kingdom  
CV2 2DX

**Study participating centre**

**Frimley Park Hospital**

Portsmouth Road  
Frimley  
Camberly  
United Kingdom  
GU16 7UJ

**Study participating centre**  
**Royal Liverpool University Hospital**  
Prescot Street  
Liverpool  
United Kingdom  
L7 8XP

**Study participating centre**  
**Moorfields Eye Hospital**  
162 City Road  
London  
United Kingdom  
EC1V 2PD

**Study participating centre**  
**Manchester Royal Eye Hospital**  
Oxford Road  
Manchester  
United Kingdom  
M13 9WL

**Study participating centre**  
**Royal Victoria Hospital**  
Queen Victoria Road  
Newcastle-Upon-Tyne  
United Kingdom  
NE1 4LP

**Study participating centre**  
**Royal Hallamshire Hospital**  
Glossop Road  
Sheffield  
United Kingdom  
S10 2JF

**Study participating centre**  
**Southampton General Hospital**  
Tremona Road

Southampton  
United Kingdom  
SO16 6YD

**Study participating centre**  
**Southend University Hospital**  
Prittlewell Chase  
Westcliff On Sea  
United Kingdom  
SS0 0RY

**Study participating centre**  
**Sunderland Eye Infirmary**  
Queen Alexandra Road  
Sunderland  
United Kingdom  
SR2 9HP

**Study participating centre**  
**Torbay Hospital**  
Lowes Bridge  
Torquay  
United Kingdom  
TQ2 7AA

**Study participating centre**  
**New Cross Hospital**  
Wolverhampton Road  
Heath Town  
Wolverhampton West  
United Kingdom  
WV10 0QP

**Study participating centre**  
**York Hosptial**  
Wigginton Road  
York  
United Kingdom  
YO31 8HE

**Study participating centre**  
**St. James' University Hospital**  
Beckett Street  
Leeds  
United Kingdom  
LS9 7TF

**Study participating centre**  
**St Thomas' Hospital**  
Eye Research Unit  
Ophthalmology Department  
Ground Floor  
South Wing  
St Thomas' Hospital  
Westminster Bridge Road  
London  
United Kingdom  
SE1 7EH

**Study participating centre**  
**King's College Hospital**  
Denmark Hill  
London  
United Kingdom  
SE5 9RS

**Study participating centre**  
**Oxford Eye Hospital**  
LG1 West Wing  
John Radcliffe Hospital  
Headley Way  
Oxford  
United Kingdom  
OX3 9DU

## **Sponsor information**

**Organisation**  
University Hospital Southampton NHS Foundation Trust

**Sponsor details**

SGH - Level E  
Laboratory and Pathology Block  
SCBR - MP 138  
Southampton  
England  
United Kingdom  
SO16 6YD

**Sponsor type**

Hospital/treatment centre

**ROR**

<https://ror.org/0485axj58>

## **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**

**Publication and dissemination plan**

Planned dissemination of study results via scientific journals, conference presentations and a study website.

**Intention to publish date**

31/12/2019

**Individual participant data (IPD) sharing plan**

Anonymised individual patient data will be made available on request for secondary research, conditional on assurance from the secondary researcher that the proposed use of the data is compliant with the Medical Research Council Policy on Data Sharing regarding scientific quality, ethical requirements, and value for money. A minimum requirement with respect to scientific quality will be a publicly available pre-specified protocol describing the purpose, methods, and analysis of the secondary research (eg, a protocol for a Cochrane systematic review, approved by a UK research ethics committee or another similar, approved ethics review body). Patient identifiers will not be passed on to any third party. Requests should be made by email to the Chief Investigator: Professor AJ Lotery A.J.Lotery@soton.ac.uk.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol file</a>	version v6.0	20/03/2018	31/05/2018	No	No
<a href="#">Protocol file</a>	version v7.0	25/02/2019	14/03/2019	No	No
<a href="#">Results article</a>	results	25/01/2020	24/01/2020	Yes	No
<a href="#">Results article</a>		01/01/2021	14/06/2023	Yes	No
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Other publications</a>	retrospective cross-sectional study: genotyping for three central serous chorioretinopathy susceptibility single-nucleotide polymorphisms	01/05/2024	08/07/2025	Yes	No