ISRCTN15124178 https://doi.org/10.1186/ISRCTN15124178

# SoMOSA: Study of mechanisms of action of omalizumab in severe asthma

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|---|---|---|
| **Submission date**<br>10/12/2015 | **Recruitment status**<br>No longer recruiting | [ ] Prospectively registered<br>[ ] Protocol<br>[ ] Statistical analysis plan<br>[ ] Results<br>[ ] Individual participant data<br>[ ] Record updated in last year |
| **Registration date**<br>06/09/2016 | **Overall study status**<br>Completed | |
| **Last Edited**<br>31/01/2018 | **Condition category**<br>Respiratory | |

## Plain English summary of protocol

Background and study aims
Asthma is a long-term condition which affects the airways. It can affect people of any age, however in usually is first spotted during childhood. When a person is suffering from asthma, the bronchi (tubes which carry air in and out of the lungs) can become narrowed or swollen (inflammation). This causes the sufferer to feel tightness in the chest as the airways become inflamed, causing coughing and difficulty breathing. Most patients with asthma are able to control their condition using medication, however for some patients it is much harder to treat (severe uncontrolled asthma). Xolair is currently licensed in the UK to treat patients with severe asthma but it is clear that not everyone with severe asthma will benefit from treatment. The aim of this study is to investigate the effects of Xolair treatment on the body's immune system in patients with severe asthma.

Who can participate?
Adults with severe uncontrolled asthma who have had at least two serious attacks in the last year

What does the study involve?
All participants are treated with injections under the skin (subcutaneous injections of Xolair at a dose between 75mg and 600mg, based on their weight, for 52 weeks (standard length of treatment). Participants will stay on their standard, pre-study treatments throughout the 52 weeks. Participants are assessed 16 weeks after starting treatment by their physician to find out how well they are responding to treatment. At the same time, participants provide a urine sample so that it can be tested for levels of a chemical called PGD2 which is produced by certain cells in the immune system in asthma.

What are the possible benefits and risks of participating?
There is a chance that some patients may benefit from better controlled asthma as a result of taking Xolair. There are no notable risks associated with participating.

Where is the study run from?
Southampton General Hospital (lead centre) and 17 other NHS hospitals in the UK.

When is the study starting and how long is it expected to run for?
September 2015 to November 2018

Who is funding the study?
Novartis Pharma AG (UK)

Who is the main contact?
Dr Jess Rajaram
somosa@soton.ac.uk

# Contact information

### Type(s)
Public

### Contact name
Dr Jess Rajaram

### Contact details
MP131
Southampton General Hospital
Tremona Road
Southampton
United Kingdom
SO16 6YD
+44 23 8120 3833
somosa@soton.ac.uk

# Additional identifiers

### Protocol serial number
19765

# Study information

### Scientific Title
A study identifying which biomarkers are predictive of a good clinical response following treatment with Xolair in patients with severe asthma

### Study objectives
Primary hypothesis:
Xolair treatment results in significant reduction in the concentrations of 2,3-dinor-11-β-PGF2α in urine after 16 weeks of treatment in patients who respond with a clinical improvement (as judged by GETE evaluation), and in those with long-term clinical benefit (as judged by reduced exacerbations and reduced dose of oral corticosteroids in patients on maintenance oral corticosteroids during 1 year of treatment).

Secondary hypothesis:
The concentration of 2,3-dinor-11-β-PGF2α in urine at baseline is predictive of a good clinical response to Xolair (judged by GETE evaluation and reduced exacerbations during 1 year

treatment). Similarly, a change in 2,3-dinor-11-β-PGF2α in urine between baseline and 16 weeks of Xolair treatment is predictive of a good clinical response.

### Ethics approval required
Old ethics approval format

### Ethics approval(s)
Wales Research Ethics Committee 5, 24/08/2015, ref: 15/WA/0302

### Study design
Interventional non-randomised study

### Primary study design
Interventional

### Study type(s)
Treatment

### Health condition(s) or problem(s) studied
Topic: Respiratory disorders; Subtopic: Respiratory (all Subtopics); Disease: Respiratory

### Interventions
All participants will be treated with Xolair 75mg – 600mg as a subcutaneous injection (as per the SmPC guidelines) for a treatment period of 52 weeks. Dosing will be in line with the approved dosing table within the SmPC and will be based on weight and serum IgE.

Participants will stay on their standard, prestudy treatment with inhaled corticosteroids and long acting inhaled steroids. The same will apply to participants who additionally are on maintenance oral corticosteroids. Participants will be assessed 16 weeks after starting treatment with Xolair by their physician using standard evaluation (GETE) and will be defined as “responders” or “non-responders”. The dose of Xolair will only be modified (according to SmPC) if there are significant changes in the patient’s body weight.

### Intervention Type
Other

### Primary outcome(s)
Concentration of (PGD2) 2,3-dinor-11-β-PGF2α in urine is measured at baseline and 16 weeks.

### Key secondary outcome(s))
Clinical response to Xolair assessed by GETE at 16 weeks.

### Completion date
31/08/2019

## Eligibility

### Key inclusion criteria
1. Aged 18-70 years
2. Severe uncontrolled asthma (GINA step 4 and 5) despite daily treatment with high-dose

inhaled corticosteroids (ICS) and long-acting beta agonists (LABA). (High-dose ICS will be a minimum twice daily dose of 800 mcg of beclomethasone dipropionate equivalent inhaler for at least 8 weeks before screening). Potential participants will need to fulfil the criteria for uncontrolled asthma as judged by their Asthma Control Questionnaire (ACQ) score =1.5 during the screening period.
3. Participants on maintenance treatment with oral corticosteroids will also be included and will also have to meet the same ACQ inclusion criterion (ACQ=1.5)
4. Atopic, as identified by positive skin prick test or in vitro reactivity to a perennial aeroallergen
5. Two or more documented severe asthma exacerbations within the previous 12 months that require courses of prednisolone, defined as increased asthma symptoms requiring treatment in the community or in hospital with systemic corticosteroid rescue therapy or an increase in daily oral corticosteroids for participants already on maintenance oral corticosteroids for >2 months
6. Frequent daytime symptoms or night-time awakenings
7. Reduced lung function (FEV1 <80%) recorded anytime within the past 2 years
8. IgE level of 30 to 1500 IU/mL
9. Body weight less than 150 kg
10. Able to give written informed consent prior to participation in the study, which includes ability to comply with the requirements and restrictions listed in the consent form
11. Able to read, comprehend, and write at a sufficient level to complete study related materials

## Participant type(s)
Patient

## Healthy volunteers allowed
No

## Age group
Adult

## Lower age limit
18 years

## Upper age limit
70 years

## Sex
All

## Key exclusion criteria
1.An exacerbation requiring treatment with systemic corticosteroids (or an increase in the baseline dose of OCS) within the 30 days before screening
2. Active lung disease other than asthma
3. Treatment with Xolair or another biologic in the 12 months before screening
4. Elevated serum IgE levels for reasons other than allergy (for example, parasite infections, the hyperimmunoglobulin E syndrome, the Wiskott–Aldrich syndrome, or bronchopulmonary aspergillosis)
5. The following medication is not allowed during the run-in and treatment period and should not have been taken for at least 3 months prior to screening: methotrexate, cyclosporine, intravenous immunoglobulin or immunosuppressant’s
6. Current smokeror having smoked in the past year. Ex-smokers will have to be confirmed by a negative cotinine test. If there is a history of smoking for >10 pack years, then asthma diagnosis

should have been made before the age of 40 and objective evidence of reversibility of FEV1>12% and 200ml should be available [either previously recorded or done as part of screening for this study]. Potential participants where an asthma/COPD overlap is suspected should not be included.
7. The participant has a history of current recreational drug use or other allergy, which, in the opinion of the responsible physician, contra-indicates their participation
8. Female patient who is pregnant or lactating or up to 6 weeks post partum or 6 weeks cessation of breast feeding
9. Those participants who, in the opinion of the investigator, have a risk of non-compliance with study procedures
10. The participant has a recent history of incapacitating psychiatric disorders
11. History or current evidence of an upper or lower respiratory infection or symptoms (including common cold) within 4 weeks of baseline assessments (in such participant assessments should be deferred until after 4 weeks have lapsed from the cold)

### Date of first enrolment
01/10/2015

### Date of final enrolment
28/02/2018

## Locations

### Countries of recruitment
United Kingdom

England

Northern Ireland

Scotland

### Study participating centre
**Southampton General Hospital**
Tremona Road
Southampton
United Kingdom
SO16 6YD

### Study participating centre
**Belfast City Hospital**
Lisburn Road
Belfast
United Kingdom
BT9 7AB

**Study participating centre**
**Churchill Hospital**
Old Road
Oxford
United Kingdom
OX3 7LE

**Study participating centre**
**Glenfield Hospital**
Groby Road
Leicester
United Kingdom
LE3 9QP

**Study participating centre**
**Nottingham City Hospital**
Hucknall Road
NG5 1PB
United Kingdom
Nottingham

**Study participating centre**
**Gartnavel Hospital**
1053 Great Western Road
Glasgow
United Kingdom
G12 0YN

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

**Study participating centre**
**Queen Alexandra Hospital**
Southwick Hill Road

Portsmouth
United Kingdom
PO6 3LY

**Study participating centre**
**Wythenshawe Hospital**
Southmoor Road
Wythenshawe
Manchester
United Kingdom
M23 9LT

**Study participating centre**
**University College Hospital**
Euston Road
London
United Kingdom
NW1 2BU

**Study participating centre**
**Royal Brompton Hospital**
Sydney Street
London
United Kingdom
SW3 6NP

**Study participating centre**
**Guy's Hospital**
Great Maze Pond
London
United Kingdom
SE1 9RT

**Study participating centre**
**Birmingham Heartlands Hospital**
Bordesley Green East
Birmingham
United Kingdom
B9 5SS

**Study participating centre**
**Bradford Teaching Hospital**
Duckworth Lane
Bradford
United Kingdom
BD9 6RJ

**Study participating centre**
**Addenbrookes Hospital**
Hills Road
Cambridge
United Kingdom
CB2 0QQ

**Study participating centre**
**Derriford Hospital Plymouth**
Derriford Road
Plymouth
United Kingdom
PL6 8DH

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

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

# Sponsor information

**Organisation**
Southampton University Hospitals NHS Trust

**ROR**
https://ror.org/0485axj58

# Funder(s)

**Funder type**
Government

**Funder Name**
Novartis Pharma AG

# Results and Publications

## Individual participant data (IPD) sharing plan

**IPD sharing plan summary**
Not expected to be made available

**Study outputs**

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---|---|---|---|---|
| HRA research summary | | | 28/06/2023 | No | No |