# Autologous tolerogenic dendritic cells for rheumatoid and inflammatory arthritis

Submission date [ ] Prospectively registered Recruitment status 27/04/2012 No longer recruiting [ ] Protocol [ ] Statistical analysis plan Registration date Overall study status 27/04/2012 Completed [X] Results [ ] Individual participant data **Last Edited** Condition category 21/01/2019 Musculoskeletal Diseases

## Plain English summary of protocol

Not provided at time of registration

# **Contact information**

# Type(s)

Scientific

#### Contact name

Prof John Isaacs

#### Contact details

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# Additional identifiers

# Clinical Trials Information System (CTIS)

2011-001582-41

# ClinicalTrials.gov (NCT)

NCT01352858

#### Protocol serial number

12108

# Study information

#### Scientific Title

Autologous TOlerogenic Dendritic Cells for Rheumatoid and Inflammatory Arthritis: a randomised controlled trial

#### **Acronym**

AuTODeCRA

#### **Study objectives**

Current hypothesis as of 10/04/2014:

This is a study which will look at safety, feasibility and acceptability of a new therapy called tolerogenic dendritic cells (TolDC), derived from the patient's own white blood cells, which will be injected into the knee joints of rheumatoid and inflammatory arthritis patients, using a procedure called arthroscopy (a camera examination of a joint). We are also looking to see if the drug has any effect on the disease activity (if it can help in IA) and whether the drug can affect the immune system.

#### Previous hypothesis:

This is a study which will look at safety, feasibility and acceptability of a new therapy called tolerogenic dendritic cells (TolDC), derived from the patient's own white blood cells, which will be injected into the knee joints of rheumatoid arthritis patients, using a procedure called arthroscopy (a camera examination of a joint). We are also looking to see if the drug has any effect on the disease activity (if it can help in RA) and whether the drug can affect the immune system.

More details can be found at http://public.ukcrn.org.uk/search/StudyDetail.aspx?StudyID=12108

On 10/04/2014 the following changes were made to the trial record:

- 1. The public title was changed from 'AUTOlogous TOlerogenic DEndritic Cells for Rheumatoid Arthritis' to 'Autologous TOlerogenic Dendritic Cells for Rheumatoid and Inflammatory Arthritis'
- 2. The scientific title was changed from 'AUTOlogous TOlerogenic DEndritic Cells for Rheumatoid Arthritis: a randomised controlled trial' to 'Autologous TOlerogenic Dendritic Cells for Rheumatoid and Inflammatory Arthritis: a randomised controlled trial'
- 3. The acronym was changed from 'AUTODECRA' to 'AuTODeCRA'
- 4. The anticipated end date was changed from 24/02/2013 to 31/08/2014

# Ethics approval required

Old ethics approval format

# Ethics approval(s)

NRES committee North East Sunderland, 20/01/2012, ref: 11/NE/0140

# Study design

Randomised; Interventional; Design type: Treatment

# Primary study design

Interventional

# Study type(s)

#### Treatment

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

Topic: Musculoskeletal; Subtopic: Musculoskeletal (all Subtopics); Disease: Inflammatory Arthritis

#### **Interventions**

Tolerogenic Dendritic Cells, Autologous Tolerogenic Dendritic Cells; Study Entry : Single Randomisation only

12 patients in total, 9 with TolDC and 3 with a control treatment.

Three doses of TolDC will be tested, 3 patients per dose. Subjects will have RA and at least one swollen knee joint. They will undergo a knee ultrasound scan, fill in a series of questionnaires, have their knee aspirated (fluid taken out) and finally undergo a procedure called leukapheresis (removal of white blood cells) from which the treatment will be manufactured. Subsequently they will undergo 3 arthroscopies (camera examination of the knee joint) over a period of about 12 weeks. On the first arthroscopy they will have the TolDC injected into their knee joint. They will then spend the night at the Clinical Research facility for observation. Over the next 5 days they will be telephoned daily by the study doctor to check how they are, and will be reassessed if needed. About 2 weeks later they will have their second arthroscopy to look for effects of treatment, and the third will take place at 13 weeks (end of study) or sooner if the knee appears to get worse.

#### Intervention Type

Other

#### Phase

Not Applicable

#### Primary outcome(s)

Proportion of patients experiencing adverse events (AEs) and serious adverse events (SAEs) following administration of TolDC; Timepoint(s): 3 months

# Key secondary outcome(s))

Added 10/04/2014:

- 1. The proportion of IA patients who enter the study, from whom GMP-grade TolDC of sufficient quality can be prepared (the success rate of the TolDC preparation procedure)
- 2. The proportion of patients who grade the trial and its related procedures as acceptable (trial participants will assess acceptability of study-specific procedures via an acceptability questionnaire administered at the last study visit)

#### Completion date

31/08/2014

# **Eligibility**

#### Key inclusion criteria

Current inclusion criteria as of 10/04/2014:

1. Participants will be patients with rheumatoid arthritis according to the 1987 or 2010 American College of Rheumatology (ACR) classification criteria or inflammatory arthritis

- 2. Able and willing to give informed consent and to comply with the study protocol
- 3. At least 6 months duration
- 4. ACR Functional Class I-III (for RA patients)
- 5. Age 18 years or over
- 6. Active disease, including an inflamed (native) knee joint
- 7. Failure (or intolerance of) at least one disease modifying anti-rheumatic drug (DMARD), including current therapy
- 8. Morning stiffness in the target joint greater than or equal to 30 minutes
- 9. Willing and able to undergo arthroscopic procedures under local anaesthetic
- 10. Stable dose of non-steroidal anti-inflammatory drug (NSAID) or corticosteroid (prednisolone10mg) for >/=4 weeks
- 11. No intramuscular glucocorticoid administration for 6 weeks
- 12. Stable dose of disease-modifying anti-rheumatic drug (DMARD) for >/= 8 weeks
- 13. Target Gender: Male & Female

#### Previous inclusion criteria:

- 1. Participants will be patients with rheumatoid arthritis according to the 1987 or 2010 American College of Rheumatology (ACR) classification criteria
- 2. Able and willing to give informed consent and to comply with the study protocol
- 3. At least 6 months duration
- 4. ACR Functional Class I-III
- 5. Age 18 years or over
- 6. Active disease, including an inflamed (native) knee joint
- 7. Failure (or intolerance of) at least one disease modifying anti-rheumatic drug (DMARD), including current therapy
- 8. Morning stiffness in the target joint 30 minutes
- 9. Willing and able to undergo arthroscopic procedures under local anaesthetic
- 10. Stable dose of non-steroidal anti-inflammatory drug (NSAID) or corticosteroid (prednisolone;10mg) for >/=4 weeks
- 11. No intramuscular glucocorticoid administration for 6 weeks
- 12. Stable dose of disease-modifying anti-rheumatic drug (DMARD) for >/= 8 weeks weeks
- 13. Target Gender: Male & Female

#### Participant type(s)

Patient

# Healthy volunteers allowed

No

#### Age group

Adult

# Lower age limit

18 years

#### Sex

All

#### Key exclusion criteria

1. Use of other investigational medicinal products within 30 days prior to study entry (defined as date of recruitment into study)

- 2. Patients who have received rituximab therapy and whose B-cell count remains below the normal range. Patients who have received any other cell depleting therapies and whose cell counts have not returned to the normal range, at the discretion of the principal investigator (PI).
- 3. Serious or unstable co-morbidity deemed unsuitable by PI, eg. Chronic obstructive pulmonary disease (COPD), cardiac failure
- 4. History of malignancy (except treated basal cell carcinoma of skin)
- 5. Known active infection at screening visit or at baseline (except fungal nail infection)
- 6. Infection requiring hospitalization or IV antibiotics within 6 weeks of baseline
- 7. Immunization with live vaccine within 6 weeks of baseline
- 8. History of recurrent or chronic infection
- 9. History of hepatitis B or C, syphilis, Human immunodeficiency virus (HIV) or Human T-lymphotropic virus (HTLV1/2) infections
- 10. Injection of target joint with glucocorticoids within 6 weeks of baseline
- 11. Hb<10g/dL; neutrophils< 2.00 x109/L; platelets <150x109/L; Alanine transaminase/Alkaline phosphatase (ALT/ALP)>2x upper limit of normal; elevated serum creatinine at screening visit
- 12. Major surgery within 8 weeks of baseline or planned within 3 months from baseline
- 13. Pregnancy, or women planning to become pregnant within the study period, or women who are breast feeding
- 14. Females or males of child bearing potential unwilling to use adequate contraception for duration of study
- 15. Patients taking anticoagulants
- 16. Hypersensitivity to local or systemic corticosteroid therapy or local anaesthetic
- 17. Poor venous access or medical condition precluding leukapheresis

Date of first enrolment 24/02/2012

Date of final enrolment 31/08/2014

# Locations

**Countries of recruitment**United Kingdom

England

Study participating centre
Institute of Cellular Medicine
Newcastle Upon Tyne
United Kingdom
NE1 7RU

# Sponsor information

### Newcastle Hospitals Foundation NHS Trust (UK)

#### **ROR**

https://ror.org/05p40t847

# Funder(s)

## Funder type

Charity

#### Funder Name

Arthritis Research UK (UK)

## Alternative Name(s)

#### **Funding Body Type**

Private sector organisation

## **Funding Body Subtype**

Other non-profit organizations

#### Location

**United Kingdom** 

# **Results and Publications**

Individual participant data (IPD) sharing plan

## IPD sharing plan summary

Not provided at time of registration

# **Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/01/2017	21/01/2019	Yes	No
HRA research summary			28/06/2023		No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes