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A prospective, randomised, double-blind, placebo-controlled trial evaluating the effects of mycophenolate mofetil (MMF) on surrogate markers for atherosclerosis in female patients with systemic lupus erythematosus

Submission date	Recruitment status	[ ] Prospectively registered
11/01/2006	No longer recruiting	[ ] Protocol
Registration date	**Overall study status**	[ ] Statistical analysis plan
12/04/2006	Completed	[X] Results
Last Edited	**Condition category**	[ ] Individual participant data
30/09/2019	Musculoskeletal Diseases	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

ClinicalTrials.gov (NCT)
NCT01101802

Protocol serial number
WX18694

Study information

Scientific Title
A prospective, randomised, double-blind, placebo-controlled trial evaluating the effects of mycophenolate mofetil (MMF) on surrogate markers for atherosclerosis in female patients with systemic lupus erythematosus

Acronym
MISSILE (MMF in SLE)

Study objectives
Systemic lupus erythematosus is a multi-system autoimmune disease that affects approximately 30/100,000 of the United Kingdom population. There is a female preponderance of at least 9:1 and the disease chiefly affects women of childbearing age. Several recent epidemiological studies have shown an increased risk of clinical coronary heart disease in SLE compared to a background population. In particular women in the 35-44 year old age group have a 50-fold increased risk of myocardial infarction. This is leading to a second peak in morbidity and mortality in SLE patients in their fourth and fifth decades, hence the need to find treatments to prevent this accelerated atheroma.

Hypothesis:
MMF will attenuate inflammatory responses by attenuating the production of pro-inflammatory cytokines, inhibiting T-cell number activation, inhibiting adhesion molecule expression, decreasing the production of nitrous oxide (NO) by inducible nitrous oxide systems (NOS) as well as exerting direct anti-proliferation effects on numerous pro-atherogenic cell types. This is expected to be associated with a potent anti-inflammatory effect, which will translate into improvement of endothelial function and attenuation of the pro-inflammatory or oxidant parameters.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethics approval received from the St Thomas' Hospital Research Ethics Committee on the 6th June 2005 (ref: 05/Q0702/63).

Study design
Prospective randomised double-blind placebo-controlled trial

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Systemic lupus erythematosus

Interventions
Comparing placebo and control groups of patients before and after eight weeks of taking the study medication. Parameters that will be compared include:
1. Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) and British Isles Lupus Assessment Group (BILAG). These are validated scores of disease activity
2. Lupus serology and cardiovascular bio-markers (from fasting blood samples)
3. Ankle-brachial index and pulse wave analysis (non-invasive measurements of arterial stiffness)
4. Flow mediated dilation (non-invasive measurement of endothelium function)

Intervention Type
Drug

Phase
Not Specified

Drug/device/biological/vaccine name(s)
Mycophenolate mofetil (MMF)

Primary outcome(s)
To assess the effect of treatment with mycophenolate mofetil on endothelial function, measured by flow-mediated dilation.

Key secondary outcome(s))
1. To assess any changes in disease activity measured by SLEDAI and BILAG
2. To measure any changes in lupus serology and bio-markers of cardiovascular disease
3. To measure any changes in arterial stiffness using ankle-brachial index and pulse wave analysis

Completion date
01/02/2007

Eligibility

Key inclusion criteria
1. Female systemic lupus erythematosus (SLE) patients
2. Age 18-50 years
3. Pre-menopausal, using a reliable method of contraception
4. Clinically stable disease
5. Taking hydroxychloroquine, prednisolone up to 15 mg per day or both

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Upper age limit
50 years

Sex
Female

Key exclusion criteria
1. Smokers
2. Pregnant or breast-feeding
3. Use of other immunosuppressants
4. Use of any investigational drug within one month prior to screening
5. Acute infections two weeks prior to visit
6. History of ischaemic heart disease or end stage renal failure
7. Current signs of severe hepatic, gastrointestinal, endocrine, pulmonary, cardiac or neurological disease

Date of first enrolment
01/02/2006

Date of final enrolment
01/02/2007

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
The Lupus Research Unit
London
United Kingdom
SE1 7EH

Sponsor information

Organisation
Guy's and St Thomas' NHS Foundation Trust (UK)

ROR
https://ror.org/00j161312

Funder(s)

Funder type
Industry

Funder Name
Aspreva Pharmaceuticals (UK) (ref: WX18694)

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?
Basic results		29/09/2019	30/09/2019	No	No