

Vascular function in polycystic ovary patients after treatment with metformin: its role in polycystic-ovary-syndrome-associated insulin resistance

Submission date 14/02/2006	Recruitment status No longer recruiting	☐ Prospectively registered
Registration date 14/02/2006	Overall study status Completed	☐ Protocol
Last Edited 05/11/2008	Condition category Nutritional, Metabolic, Endocrine	☐ Statistical analysis plan
		☐ Results
		☐ Individual participant data
		☐ Record updated in last year

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific

Contact name

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Additional identifiers

Protocol serial number

NTR550

Study information

Scientific Title

Study objectives

The specific aim in the current study is to evaluate if the use of the insulin lowering agent metformin in polycystic ovary syndrome (PCOS) has an effect on micro and macro circulation.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Received from the local medical ethics committee

Primary study design

Interventional

Study design

Randomised, double blind, placebo controlled, parallel group trial

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Polycystic ovary syndrome (PCOS)

Interventions

Medication:

Patients will be randomised to receive metformin or placebo, two times a day 1000 mg for 6 months.

Vascular measurements:

The measurements will take place at baseline and after metformin therapy. The micro and macro circulation will be measured.

Intervention Type

Drug

Phase

Not Specified

Drug/device/biological/vaccine name(s)

Metformin

Primary outcome(s)

Vascular function after metformin therapy compared to vascular function at baseline (micro and macrovascular measurements)

Key secondary outcome(s)

No secondary outcome measures

Completion date

01/10/2007

Eligibility

Key inclusion criteria

1. PCOS as judged in early routine patient work-up by three out of the following four criteria:
 - 1.1. Oligomenorrhoea (mean length of the menstrual cycle greater than 35 days) or amenorrhoea (based on history of oligomenorrhoea)
 - 1.2. Evidence of hyperandrogenism, whether clinical (hirsutism, acne, or male pattern balding) or biochemical (elevated serum androgen level [total testosterone greater than 2 nmol/l, and/or androstenedione greater than 9], determined in a period while the patient was not using any medication with potential endocrine influence)
 - 1.3. Elevated serum luteinising hormone (LH) level (greater than 6.5 IU/l), determined at least 2 weeks after the beginning of a menstrual period and 3 weeks before the subsequent menstrual period in the presence of a normal follicle-stimulating hormone (FSH) level (less than 10 IU/l, determined in a period while the patient was not using any medication with potential endocrine influence)
 - 1.4. A polycystic ovary morphology (defined by the presence of eight or more subcapsular follicular cysts less than or equal to 10 mm and increased ovarian stroma) by ultrasound performed at our department
2. Aged 18 - 40 years
3. One phase combined oral contraceptives with 30 ethinylestradiol (preferred are Microgynon 30®, Stediril 30, Yasmin® and Diane® 35) for at least 3 months but no other medication to avoid hormonal cyclicity and for contraceptive purposes
4. Informed consent

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 Years

Sex

Female

Key exclusion criteria

1. Cardiovascular disease (hypertension [greater than 160/90 mmHg], stroke, coronary artery disease, peripheral vascular disease, heart failure)
2. Diabetes mellitus (according to American Diabetes Association [ADA] criteria)
3. Hypothyroidism, hyperprolactinemia, Cushing's syndrome nonclassical congenital adrenal hyperplasia
4. Smoking for the last three months
5. Alcohol use greater than 4 units/day

6. Pregnancy
7. Diseases that influence reproductive hormone status
8. Kidney and liver dysfunction or congestive heart failure (which can cause lactic acidosis when taking metformin)

Date of first enrolment

01/01/2006

Date of final enrolment

01/10/2007

Locations

Countries of recruitment

Netherlands

Study participating centre

VU University Medical Center

Amsterdam

Netherlands

1007 MB

Sponsor information

Organisation

Vrije University Medical Centre (VUMC) (The Netherlands)

ROR

<https://ror.org/00q6h8f30>

Funder(s)

Funder type

Industry

Funder Name

Merck (France) - Commercial Unit CardioMetabolic Care

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration