Metabolic adverse drug events of antidepressants associated with the serotonin-2C receptor gene: a prospective follow-up study

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To investigate the association between two polymorphisms of the HTR2C gene (5-HT2c-receptor gene) (3813929 C/T and rs1414334: C>G) and metabolic adverse drug reactions in starters with mirtazapine (5-HT2C-receptor antagonist) versus paroxetine (...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Glucose metabolism disorders (incl diabetes mellitus)
Study type	Observational invasive

Summary

ID

NL-OMON30967

Source
ToetsingOnline

Brief title
MAAS-study

Condition

- Glucose metabolism disorders (incl diabetes mellitus)
- Psychiatric disorders

Synonym
obesity, weight gain

Research involving
Human

Sponsors and support

Primary sponsor: Maaslandziekenhuis
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: antidepressants, metabolic adverse drug events, serotonine-2C receptor gene

Outcome measures

Primary outcome

- BMI increase within the study period (0-105 days after start with the antidepressant)

- Waist circumference increase within the study period (0-105 days after start with the antidepressant)

Secondary outcome

- Increase of patients with metabolic syndrome at start according to the criteria of the International Diabetes Federation (IDF) within the study period (0-105 days after start with the antidepressant)

- SCORE cardiovascular 10-year mortality risk increase within the study period (0-105 days after start with the antidepressant)

- Increase of fasting glucose level increase within the study period (0-105 days after start with the antidepressant)

- Increase of fasting LDL level increase within the study period (0-105 days after start with the antidepressant)

- Increase of fasting TC level increase within the study period (0-105 days after start with the antidepressant)

- Increase of fasting HDL decrease within the study period (0-105 days after

start with the antidepressant)

Study description

Background summary

Antidepressants may cause weight gain, lipid abnormalities and hyperglycemia, which are elements of the metabolic syndrome, leading to more severe comorbidity, psychosocial consequences, and higher mortality rates. Some antidepressants have 5-HT2C receptor-blocking properties and antagonism of the 5-HT2C receptor has been hypothesized to represent an important modulator in feeding behaviour, causing weight gain and insulin resistance. Of the 5-HT2C receptor, several polymorphisms are known which are associated with obesity and weight gain in users of antipsychotics. The association between 5-HT2C receptor polymorphisms and metabolic adverse drug reactions of antidepressants however has never been studied.

Study objective

To investigate the association between two polymorphisms of the HTR2C gene (5-HT2c-receptor gene) (3813929 C/T and rs1414334: C>G) and metabolic adverse drug reactions in starters with mirtazapine (5-HT2C-receptor antagonist) versus paroxetine (no 5-HT2C-receptor antagonist).

Study design

A prospective controlled follow-up design will be conducted.

Study burden and risks

On inclusion patients will be asked to give consent and fill in a questionnaire. In addition a health check will be performed which is repeated with the questionnaire after 105 days. The health check encompasses the following measurements: blood glucose, LDL, HDL, triglycerides, weight waist circumference and blood pressure. Finally, a DNA sample from saliva will be taken. For the glucose, LDL, HDL and triglycerides measurement a blood sample is needed which will be taken by the finger prick-method. Taking a blood sample is part of daily medical practice and the risk of the finger prick is negligible.

Contacts

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Scientific
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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

- Start of an antidepressant (mirtazapine or paroxetine)
- 18 years or older
- Race: Caucasian (3 of 4 grand parents are Caucasian)

Exclusion criteria

- Abnormal clinical outcomes at the first health check in which a consult with the general practitioner is advised. These outcomes are:
- BMI * 30 kg/m2
- Total cholesterol * 8 mmol/l
- Total cholesterol * 4.5 mmol/l + diabetes

- LDL * 2.5 mmol/l + * 1 risk factor
- Systolic blood pressure * 140 mmHg + * 1 risk factor
- Systolic blood pressure * 160 mmHg
- Glucose > 7.8 mmol/l + BMI * 25 kg/m2
(Risk factors are: smoking, diabetes mellitus, family anamnesis (father, mother, brother or sister) with cardiovascular disease before the age of 60 years.)
- Use of the antidepressant is shorter than 105 days
- Use of other antidepressants during the study period: citalopram, duloxetine, escitalopram, fluoxetine, fluvoxamine, mianserin, paroxetine, trazodone, venlafaxine, buprorion, amitriptyline, clomipramine, dosulepin, doxepine, imipramine, maprotiline, nortripyline
- Use of atypical antipsychotics during the study period: aripiprazole, clozapine, olanzapine, risperidone, quitiapine, sertindol

Study design

Design

Study type:	Observational invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-04-2008
Enrollment:	100
Type:	Actual

Ethics review

Approved WMO

Date:	04-12-2007
Application type:	First submission
Review commission:	METC Z: Zuyderland-Zuyd (Heerlen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL19101.096.07