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Prevention of decline in cognition after stroke trial

Submission date	Recruitment status	[X] Prospectively registered
03/08/2009	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
23/09/2009	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
19/01/2017	Mental and Behavioural Disorders	

Plain English summary of protocol

Background and study aims
A stroke occurs when the blood supply to part of the brain is cut off, either due to a blood clot (an ischaemic stroke) or a blood vessel bursting (a haemorrhagic stroke). Stroke can lead to cognitive decline and dementia. Intensive lowering of blood pressure and/or lipids (LDL-cholesterol) may reduce the risk of dementia after stroke. The aim of this study is to find out whether intensive blood pressure and/or lipid lowering are better than moderate blood pressure and/or lipid lowering to prevent cognitive decline after stroke.

Who can participate?
Patients who have had an ischaemic or haemorrhagic stroke in the last three to seven months.

What does the study involve?
Participants with ischaemic stroke are randomly allocated to either moderate or intensive blood pressure lowering treatment and to either moderate or intensive lipid lowering treatment. Participants with haemorrhagic stroke are randomly allocated to either moderate or intensive blood pressure lowering treatment. The study is testing treatment strategies, not individual drugs.

What are the possible benefits and risks of participating?
Not provided at time of registration

Where is the study run from?
Nottingham University Hospitals NHS Trust (UK)

When is the study starting and how long is it expected to run for?
January 2010 to January 2018

Who is funding the study?
1. The Stroke Association (UK)
2. The Alzheimer's Society (UK)

Who is the main contact?
Prof. Philip Bath
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Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Protocol serial number
Version 1.0

Study information

Scientific Title
Prevention Of Decline in Cognition After Stroke Trial (PODCAST): a factorial randomised controlled trial of intensive versus guideline (moderate) lowering of blood pressure and lipids

Acronym
PODCAST

Study objectives
To study if intensive blood pressure and/or lipid lowering post stroke, is better than moderate blood pressure and/or lipid lowering, to prevent cognitive decline after stroke.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Nottingham Research Ethics Committee 1, 24/07/2009

Primary study design
Interventional

Study design
Multicentre prospective randomised open-label blinded end-point controlled partial-factorial phase IV trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Cognitive impairment after stroke

Interventions
The trial will assess whether intensive blood pressure lowering (systolic blood pressure less than 125 mmHg) and lipid lowering (low density lipoprotein [LDL]-cholesterol less than 2.0 mmol/L) is better than moderate blood pressure lowering (systolic blood pressure less than 140 mmHg) and cholesterol lowering (LDL-cholesterol less than 3.0 mmol/L).

Participants with ischaemic stroke will be randomised to both the blood pressure and lipid lowering arms; participants with haemorrhagic stroke will be randomised only to the blood pressure lowering arm.

The study will test management strategies and not individual drugs. Algorithms taking account of 'National Institute of Clinical Excellence, UK Guidelines', relating to stroke, hypertension, lipids and Type 2 Diabetes will aid investigators in treatment decision-making using standard antihypertensive and lipid lowering drugs so that participants are treated as randomised.

The total duration of the trial is 8 years and follow up for participants will range from 1 - 8 years depending on the time of enrolment. The trial intervention will be for the same duration.

Intervention Type
Other

Phase
Phase IV

Primary outcome(s)
Comparison of cognition (Addenbrooke's Cognitive Examination extended to include death) between 'intensive' and 'moderate' BP/lipid lowering groups, measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months.

Key secondary outcome(s)
For each of BP-lowering and lipid-lowering arms, comparison between 'intensive' and 'moderate' groups:
1. Dementia: measured at 6, 18, 30, 42, 54, 66, 78, 90 and 96 months -
1.1. Using alzheimers disease (AD) - National Institute of Neurological and Communicative Disorders and Stroke and the Alzheimer's Disease and Related Disorders Association (NINCDS-ADRDA) and vascular dementia (VaD) - National Institute of Neurological Disorders and Stroke and Association Internationale pour la Recherché et l'Enseignement en Neurosciences (NINDS-AIREN)

1.2. With/without recurrent stroke
2. Cognition: all tests at 6, 18, 30, 42, 54, 66, 78, 90 and 96 months, except telephone-administered mini-mental state examination (tMMSE) and Telephone Interview for Cognitive Status (TICS-M) done at 0, 12, 24, 36, 48, 70 and 84 months over the telephone
2.1. Global - mini-mental state examination (MMSE), tMMSE, TICS
2.2. Association - trail making A/B
2.3. STROOP test
2.4. Cognitive decline with/without recurrent stroke
2.5. Ordinal cognition (MMSE greater than 28/23 - 28/10 - 22/less than 10/dementia/dead)
2.6. Informant (IQCODE)
3. Quality of life - EuroQoL, informant (DEMQoL), measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
4. Depression (Zung), measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
5. Dependency (modified Rankin Scale [mRS]), measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
6. Disability (Barthel Index [BI]), measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
7. Stroke recurrence, measured at baseline and every six months until the end of the trial
8. Myocardial infarction, measured every six months until the end of the trial
9. Composite vascular events (non-fatal stroke, non-fatal MI, fatal vascular), measured every six months until the end of the trial
10. Stroke: fatal/severe non-fatal/mild/transient ischaemic attack [TIA]/none, measured at baseline and every six months until the end of the trial
11. Myocardial infarction: fatal/non-fatal/angina/none, measured at baseline and every six months until the end of the trial
12. Vascular: fatal/non-fatal/none, measured at baseline and every six months until the end of the trial
13. New diabetes, measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
14. New atrial fibrillation, measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
15. Residence (home, institution), care package, informal family support, measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
16. Blood pressure (systolic BP, diastolic BP, pulse pressure, rate-pressure product), measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
17. Lipids (total cholesterol [TC], triglycerides [TG], HDL, calculated LDL), measured at baseline, 6, 18, 30, 42, 54, 66, 78, 90 and 96 months
18. Neuroimaging (in a subset of participants), measured at baseline and at 3 years

Completion date
01/01/2018

Eligibility

Key inclusion criteria
1. Age greater than 70 years and telephone-administered mini-mental state examination (MMSE) greater than 16; or aged greater than 60 years and telephone-MMSE 17 - 19, either sex
2. Functionally independent (modified Rankin Scale [mRS] 0 - 2)
3. Ischaemic stroke (any cortical Oxfordshire Community Stroke Project [OCSP]/Trial of ORG 10172 in Acute Stroke Treatment [TOAST] type) or primary intracerebral haemorrhage (cortical or basal ganglia)
4. Three to seven months post-event (to allow cognitive, neurological, blood pressure [BP] and lipid stabilisation, but avoid attrition)
5. Systolic BP 125 - 170 mmHg

6. Total cholesterol 3 - 8 mmol/l
7. Presence of a reporter: partner, sibling, child, friend (for Informant Questionnaire of Cognitive Decline [IQCODE]/Dementia Quality of Life [DEMQoL])
8. Capacity and willingness to give consent

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Senior

Sex
All

Key exclusion criteria
1. Participants not meeting inclusion criteria
2. Subarachnoid haemorrhage
3. Secondary intracranial haemorrhage (trauma, arteriovenous malformation [AVM], cavernoma)
4. Posterior circulation ischaemic stroke
5. Posterior circulation haemorrhage
6. No computed tomography (CT)/magnetic resonance imaging (MRI) during index stroke
7. Inability to give consent or do study measures, e.g. severe dysphasia, weakness of dominant arm
8. Severe hypertension (systolic BP greater than 170 mmHg)
9. Definite need for 'intensive' BP control
10. Severe hypercholesterolemia (total cholesterol [TC] greater than 8 mmol/l)
11. Definite need for 'high intensity' statin or ezetimibe
12. Definite need for a cholinesterase inhibitor
13. Familial stroke associated with dementia, e.g. cerebral autosomal dominant arteriopathy with subcortical infarcts and leucoencephalopathy (CADASIL)
14. Chronic renal failure: glomerular filtration rate (GFR) less than 50
15. Liver disease, alanine aminotransferase (ALT) greater than 60
16. Ongoing participation in trials involving drug and/or devices, or within the last 3 months

Date of first enrolment
01/01/2010

Date of final enrolment
01/01/2018

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Institute of Neuroscience
Notttingham
United Kingdom
NG5 1PB

Sponsor information

Organisation
The University of Nottingham (UK)

ROR
https://ror.org/01ee9ar58

Funder(s)

Funder type
Charity

Funder Name
Stroke Association (UK) (ref: TSA2008/09)

Alternative Name(s)
TheStrokeAssociation, TheStrokeAssoc

Funding Body Type
Private sector organisation

Funding Body Subtype
Associations and societies (private and public)

Location
United Kingdom

Funder Name
Alzheimer's Society (UK) (ref: TSA 2008/09)

Alternative Name(s)
alzheimerssoc

Funding Body Type

Private sector organisation

Funding Body Subtype
Associations and societies (private and public)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	07/11/2015		Yes	No
Results article	results	17/01/2017		Yes	No
Protocol article	protocol	22/11/2013		Yes	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes