Trial to evaluate effects of the intention to treat for insulin resistance (ITT-IR) to prevent cardiovascular events in early stages of diabetes

Submission date	Recruitment status	Prospectively registered
01/04/2024	No longer recruiting	☐ Protocol
Registration date	Overall study status	Statistical analysis plan
05/04/2024	Completed	Results
Last Edited	Condition category	Individual participant data
08/04/2024	Nutritional, Metabolic, Endocrine	Record updated in last year

Plain English summary of protocol

Background and study aims

To evaluate whether the intention to treat for insulin resistance (ITT-IR) can prevent cardiovascular events in diabetes patients with the early stages of treatment (early diabetes; lifestyle intervention/non-insulinotropic drugs/incretin drugs).

Who can participate?

Diabetes patients with the early stages of treatment (early-stage diabetes: life-style intervention /non-insulinotropic drugs/incretin drugs) at baseline, who continue to follow for more than six months at diabetes center of Wakayama Rosai Hospital.

What does the study involve?

To evaluate whether the intention to treat for insulin resistance (ITT-IR) can prevent cardiovascular events in the early-stage diabetes.

What are the possible benefits and risks of participating?

Self-monitoring determined a target may be useful for cognition of physical parameter and resultant acceptance of treatment on diet and prescription.

Following V with abdominal CT may motivate patients to increase ADL.

Preferential prescription of non-insulinotropic diabetes drugs [biguanide, α -glucosidase inhibitor, thiazolidine, or sodium glucose co-transporter 2 (SGLT2) inhibitor] and disuse of insulinotropic drugs (DPP4I, GN and SU), as far as possible, may affect the adherence of patient.

The prevalence of hypoglycemia and the progression of retinopathy may differ.

The following rate in G-I may decrease from the change of treatment policy.

Where is the study run from? Wakayama Rosai Hospital (Japan)

When is the study starting and how long is it expected to run for? April 2016 to June 2021

Who is funding the study? Investigator initiated and funded

Who is the main contact?
Dr Takashi Ohoshi, tks-oohoshi@wakayamah.johas.go.jp

Contact information

Type(s)

Public, Scientific, Principal Investigator

Contact name

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Additional identifiers

EudraCT/CTIS number

Nil known

IRAS number

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

IRS 123456

Study information

Scientific Title

Cluster randomized parallel controlled trial to evaluate effects of the intention to treat for insulin resistance (ITT-IR) to prevent cardiovascular events in early stages of diabetes

Acronym

ITT-IR trial

Study objectives

From the ACCORD and Steno-2 Study, it became clear that pushing glucose levels as low as possible in diabetic patients with a long duration of the condition could be harmful. It was evident that managing not just blood glucose but also other existing risk factors comprehensively was necessary to prevent cardiovascular complications. However, because of the need to address multiple risk factors in comprehensive therapy, the treatment focus became unclear. Thus, this study sought to address insulin resistance, the primary pathogenic feature of diabetes, particularly in the early stages of type 2 and possibly slowly progressive type 1. We aimed to determine whether the intention to treat insulin resistance (ITT-IR) could effectively prevent cardiovascular events in the early stages of diabetes.

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 26/08/2022, Ethics committee of Wakayama Rosai Hospital (93-1 Kinomoto, Wakayama city, 640-8505, Japan; +81 734513181; ohoshi03@yahoo.co.jp), ref: 22—06

Study design

Cluster randomized open parallel controlled single-centre trial

Primary study design

Interventional

Secondary study design

Cluster randomised trial

Study setting(s)

Community, Hospital, Medical and other records

Study type(s)

Prevention, Treatment, Safety, Efficacy

Participant information sheet

No participant information sheet available

Health condition(s) or problem(s) studied

Early stages of diabetes

Interventions

Intervention group (G-I): The protocols of I [self-monitoring of steps, of body weight and of blood pressure (BP), following of visceral fat area (V) in abdominal obese patients, diet advise by dietitian, and preferential prescription of non-insulinotropic drugs] were recommended from baseline to 65 weeks (I-period). After I-period we continued to follow until week 272.

Control group (G-C): Conventional treatment for diabetes mellitus from baseline to 272 weeks.

Authors adopted cluster randomization from the complex intervention unable to mask. Of seven doctors in diabetes center, only one doctor treated patients according to "ITT-IR" policy.

Researcher did not inform patients and other doctors on this policy in advance to reduce minimally influence on their mode of treatment. The ninety patients of ITT-IR (G-I) were randomly allocated and followed using intention-to-treat (ITT) analysis.

Intervention Type

Mixed

Primary outcome measure

Measured using patient records at the end of study:

Percutaneous coronary intervention, carotid endarterectomy, carotid artery stenting, endovascular treatment, thromboendarterectomy, coronary artery bypass grafting, ablation, implantable cardioverter defibrillator, clipping for aneurysm of intracranial arteries, amputation from gangrene, non-fatal stroke, non-fatal myocardial infarction(MI), hemodialysis, frailty, dementia, hospitalization from heart failure, death from cardiovascular causes, death from renal failure, death from frailty)

Secondary outcome measures

Measured using patient records at the end of study: Hospitalization from complications or comorbidities, death)

Overall study start date

05/04/2016

Completion date

30/06/2021

Eligibility

Key inclusion criteria

Diabetes patients visited outpatient clinic in Wakayama Rosai Hospital from April to June in 2016

Participant type(s)

Patient

Age group

Adult

Lower age limit

16 Years

Upper age limit

90 Years

Sex

Both

Target number of participants

G-I 88, G-C 516

Total final enrolment

Key exclusion criteria

Cannot continue to visit our outpatient clinic

Date of first enrolment

05/04/2016

Date of final enrolment

30/06/2016

Locations

Countries of recruitment

Japan

Study participating centre Diabetes centre, Wakayama Rosai Hospital

93-1 Kinomoto Wakayama city Japan 640-8505

Sponsor information

Organisation

Wakayama Rosai Hospital

Sponsor details

93-1Kinomoto Wakayama Japan 6408505 +81 734513181 tks-oohoshi@wakayamah.johas.go.jp

Sponsor type

Hospital/treatment centre

Website

http://www.wakayamah.johas.go.jp/

ROR

https://ror.org/00awxvj03

Funder(s)

Funder type

Other

Funder Name

Investigator initiated and funded

Results and Publications

Publication and dissemination plan

Planned publication in a high-impact peer-reviewed journal.

Intention to publish date

30/06/2025

Individual participant data (IPD) sharing plan

Raw data are available on reasonable request to the corresponding author. All data relevant to the study are included in publication data. ohoshi03@yahoo.co.jp

IPD sharing plan summary

Available on request