Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

A Randomized Clinical Trial Comparing the Efficacy of Liraglutide and Radiofrequency Cavitation in the Management of Abdominal Obesity

Protocol summary

Study aim

1. To assess the effect of liraglutide versus RF cavitation on waist circumference. 2. To assess their comparative effect on body mass index (BMI). 3. To assess their comparative effect on body weight. 4. To assess their comparative effect on lipid profile. 5. To assess their comparative effect on blood glucose profile. 6. To assess their comparative effect on the waist-to-hip ratio.

Design

this study is a double-blind randomized clinical trial with a before-and-after design. sixth four obese participants with abdominal obesity will be randomly assigned into two groups of 32 each using simple randomization in Microsoft Excel. one group will receive Liraglutide injections(0.6-2.4 mg/day for six months) and the other will undergo radiofrequency cavitation therapy(weekly sessions for eight weeks). the researcher and data analyst will remain blinded to group allocation . changes in body weight,BMI ,and waist circumference will be evaluated before and after the interventions.

Settings and conduct

patients visiting the teaching clinics and affiliated health centers of the islamic Azad university of medical sciences.

Participants/Inclusion and exclusion criteria

• Inclusion: adults aged 35–70 years with obesity. • Exclusion: smoking, pregnancy, substance abuse, endocrine disorders (e.g., Cushing’s syndrome), cancer, chronic renal failure, alcohol consumption.

Intervention groups

control group:participants will recieve Liraglutide injections (0.6-2.4 mg/day for six months) intervention group:participants will undergo radiofrequency cavitation therapy weekly for eight weeks.

Main outcome variables

waist circumference and body mass index (BMI)

General information

Reason for update

Acronym

IiraCav tial

IRCT registration information

IRCT registration number: **IRCT20251003067486N1**
Registration date: **2025-11-01, 1404/08/10**
Registration timing: **prospective**

Last update: **2025-11-01, 1404/08/10**
Update count: **0**

Registration date

2025-11-01, 1404/08/10

Registrant information

Name

Nazanin Eslamipour

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 2220 1521

Email address

n.eslamipour@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-11-06, 1404/08/15

Expected recruitment end date

2026-05-05, 1405/02/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
A Randomized Clinical Trial Comparing the Efficacy of Liraglutide and Radiofrequency Cavitation in the Management of Abdominal Obesity

Public title
Comparison of the effects of liraglutide and radio frequency cavitaion on abdominal obesityof the effects of liraglutide and radio frequency cavitaion on abdominal obesity

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
obesity

Exclusion criteria:
Pregnancy Drug abuse Obesity due to specific endocrine disorders Alcohol use Specific diseasesuch as cancer

Age
From **35 years** old to **70 years** old

Gender
Both

Phase
3

Groups that have been masked

- Care provider
- Outcome assessor
- Data analyser

Sample size
Target sample size: **64**

Randomization (investigator's opinion)
Randomized

Randomization description
using Microsoft Excel software, random allocation of participants into study groups was performed. for this purpose, the random number generation function in Microsoft excel was used to assign a random decimal number between 0 and 1 to each participant. these random numbers were then sorted in ascending order, and based on their order, participants were allocated to the intervention and control groups.this randomization method was applied to minimize selection bias and to ensure homogeneity of baseline characteristics between the study groups.

Blinding (investigator's opinion)
Double blinded

Blinding description
Due to the difference in the type of interventions (subcutaneous liraglutide injection versus radiofrequency cavitation therapy), complete blinding of participants and treating staff is not feasible. Therefore, the outcome assessor and data analyst will be blinded to the group allocation. The outcome evaluator (measuring weight, BMI, and waist circumference) and the statistical analyst will remain unaware of patient group assignments throughout the study. Accordingly, the trial is considered double-blind (evaluator- and analyst-blinded).

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
ethics committee of islamic Azad university of medical sciences

Street address
Dr shariati st,gholhak junction amin pabarja street, ayeneh boulvard, corner of goleyakh street,headquarters building of islamic azad university, tehran faculty of medical science.

City
Tehran

Province
Tehran

Postal code
1949635881

Approval date
2025-10-22, 1404/07/30

Ethics committee reference number
IR.IAU.PS.REC.1404.452

Health conditions studied

1

Description of health condition studied
obesity

ICD-10 code
E66.9

ICD-10 code description
Obesity, unspecified

Primary outcomes

1

Description
waist measurement

Timepoint
three months

Method of measurement
with aa measuring tape

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: radiofrequency cavitation

Category
Treatment - Devices

2

Description
Control group: liraglutide
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
کلینیک غدد بیمارستان فرهیختگان
Full name of responsible person
alireza aref zade
Street address
“Tehran, end of Sattari Street North, University Square, opposite the Central Office of Islamic Azad University. farhikhtegan hospital
City
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
akram fath abadi
Street address
tehran,shariati street,gholhak crossroad,pabarja street,abne boulvard at the corner of goleyakh, islamic azad university, tehran medical science building
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https://tms.iau.ir/research/fa/page/583/%D8%A7%D8%AF%D8%A7%D8%B1%D9%87-%D8%A7%D9%85%D9%88%D8%B1-%D9%BE%DA%98%D9%88%D9%87%D8%B4%DB%8C-%D9%88-%D8%AA%D9%88%D9%84%DB%8C%D8%AF-%D8%B9%D9%84%D9%85
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Islamic Azad University
Proportion provided by this source
100
Public or private sector
Private
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Academic

Person responsible for general inquiries

Contact
Name of organization / entity
Islamic Azad University
Full name of responsible person
alireza aref zade
Position
Assistant Prof of Endocrinology & Metabolism
Latest degree
Subspecialist
Other areas of specialty/work
Internal Medicine
Street address
Tehran, end of Sattari Street North, University Square, opposite the Central Office of Islamic Azad University farhikhtegan hospital
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Alireza.arefzadeh@iautmu.ac.ir

Person responsible for scientific inquiries

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Full name of responsible person
alireza arefzade
Position
Assistant Prof of Endocrinology & Metabolism
Latest degree

Subspecialist

Other areas of specialty/work
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Person responsible for updating data

Contact

Name of organization / entity
Islamic Azad University

Full name of responsible person
Nazanin Eslamipour

Position
ssistant Prof of Endocrinology & Metabolism.

Latest degree
Subspecialist

Other areas of specialty/work
Internal Medicine

Street address
tehran end of sattari street north,university square,opposite the central office of islamic Azad university ,farhikhtegan hospital

City
tehran

Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
no additional information is avaiable.

Study Protocol
No - There is not a plan to make this available

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
Undecided - It is not yet known if there will be a plan to make this available

Analytic Code
Not applicable

Data Dictionary
Not applicable