

Clinical Trial Protocol

Iranian Registry of Clinical Trials

25 Jun 2026

Effect of coenzyme Q10 on total antioxidant capacity, malondialdehyde, superoxide dismutase and glutathione peroxidase in multiple sclerosis patients

Protocol summary

Summary

The aim of this study is to investigate the effect of coenzyme Q10 supplementation on serum level of antioxidant factors in multiple sclerosis patients. In this parallel randomized controlled trial, 50 men and women with multiple sclerosis will be recruited from center of multiple sclerosis of Sina hospital of Tehran university of medical science. Inclusion criteria are adults 18-51 years old, able to provide informed consent and diagnosed with relapsing remitting MS. Exclusion criteria are: MS exacerbation during of study, systemically administered corticosteroids during the study, pregnant or breast-feeding, other significant health problem (e.g. active coronary heart disease, liver disease, pulmonary disease, diabetes mellitus and other autoimmune disease) that might increase the risk of subject experiencing adverse events; consumption of vitamin, mineral and antioxidant supplement 30 days before study entry, any condition which would make the subject, in the opinion of the investigator, unsuitable for the study and compliance less than 70%. Prior to the study, the subjects will be required to complete 3-days 24-hour dietary recall. Diets will be analyzed for calorie and macronutrients and copper, iron, zinc and manganese content. Intervention group receives 500 mg of coenzyme Q10 as 2 capsules and other group receives 2 placebo capsules. Blood samples will be obtained after an overnight fast before and after the study.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201102052602N5**

Registration date: **2011-02-08, 1389/11/19**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2011-02-08, 1389/11/19

Registrant information

Name

Shahryar Eghtesadi

Name of organization / entity

Iran University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 21 8877 9118

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egtesadi@iums.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research of Tehran university of Medical Sciences

Expected recruitment start date

2011-04-05, 1390/01/16

Expected recruitment end date

2012-03-04, 1390/12/14

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of coenzyme Q10 on total antioxidant capacity, malondialdehyde, superoxide dismutase and glutathione peroxidase in multiple sclerosis patients

Public title

Effects of coenzyme Q10 on antioxidant factors in multiple sclerosis

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: age 18-51 years, able to provide informed consent and diagnosed with relapsing remitting MS. Exclusion criteria: MS exacerbation during the study, systemically administered corticosteroids during the study, pregnant or breast-feeding, other significant health problem (e.g. active coronary heart disease, liver disease, pulmonary disease, diabetes mellitus and other autoimmune disease) that might increase the risk of subject experiencing adverse events. Consumption of vitamin, mineral and antioxidant supplement 30 days before study entry, Any condition which would make the subject, in the opinion of the investigator, unsuitable for the study and compliance less than 70%.

Age

From **18 years** old to **51 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **50**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

School of Health, Iran University of Medical Sciences

Street address

Alvand Ave, Arjanteen Square

City

Tehran

Postal code

Approval date

2010-08-20, 1389/05/29

Ethics committee reference number

2402

Health conditions studied

1

Description of health condition studied

multiple sclerosis

ICD-10 code

G35

ICD-10 code description

Multiple sclerosis

Primary outcomes

1

Description

decrease of serum MDA (malondialdehyde) concentration

Timepoint

12 week

Method of measurement

Spectrophotometry

2

Description

increase of glutathione peroxidase

Timepoint

12 week

Method of measurement

Spectrophotometry

3

Description

increase of SOD (superoxide dismutase)

Timepoint

12 week

Method of measurement

Spectrophotometry

4

Description

TAC (total antioxidant capacity)

Timepoint

12 week

Method of measurement

colorimetry

Secondary outcomes

empty

Intervention groups

1

Description

control group: 1 capsule/day including placebo

Category

Placebo

2

Description

Q10 supplement (500mg/day) for 90 days

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

MS research center of Sina hospital

Full name of responsible person

Street address

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Dr. Mohsen Asadi Lari

Street address

Hemmat highway

City

Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Tehran University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

School of Health, Iran University of Medical Sciences

Full name of responsible person

Dr Shahriar Eghtesadi

Position

Full Professor

Other areas of specialty/work

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Other areas of specialty/work

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Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code
empty

Data Dictionary
empty