Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Effect of short-term coenzyme Q10 supplementation and one session of training on serum total antioxidant capacity, malondiadehyde and Creatine kinase in elite male rock climbers

Protocol summary

Summary

The purpose of the present study is to investigate Coenzyme Q10 and rock climbing effect on oxidative damages. A total of twenty elite male rock climbers in a randomized and double-blind design will be allocated in two equal groups: supplement (2.5 mg/kg/day Coenzyme Q10) and placebo (2.5 mg/kg/day dextrose) groups. After the supplementation period (14 days), all subjects will participate in an indoor exhaustive climbing protocol for 60 minutes. Blood samples will be obtained before the Q10 supplementation along with before and after the exhaustive exercise protocol. The serum total antioxidant capacity (TAC) and Malondialdehyde (MDA) will be measured by FRAP and spectrophotometer, respectively. The serum IL-6 and C-reactive protein will be determined by ELISA and immunophotometry methods, respectively. The peripheral blood leukocytes counts and CK activity will be determined by automatic analyzer and spectrophotometer, respectively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201010114663N2**
Registration date: **2011-07-22, 1390/04/31**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2011-07-22, 1390/04/31

Registrant information

Name

Afshar Jafari

Name of organization / entity

University of Tabriz

Country

Iran (Islamic Republic of)

Phone

+98 41 1339 3251

Email address

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Recruitment status

Recruitment complete

Funding source

University of Tabriz

Expected recruitment start date

2010-09-12, 1389/06/21

Expected recruitment end date

2010-10-13, 1389/07/21

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of short-term coenzyme Q10 supplementation and one session of training on serum total antioxidant capacity, malondiadehyde and Creatine kinase in elite male rock climbers

Public title

Coenzyme Q10 and rock climbing effect on oxidative damages

Purpose

Basic scienece

Inclusion/Exclusion criteria

Inclusion criteria: Healthy elite male rock climbers, age 19 -25 years, at least 3 years sport history, without any inflammatory or oxidative supplement ingestion during 6 months prior to the study, Exclusion criteria: chronic

diseases, injuries, aerobic power lower than 50 ml/kg/min, fat percent higher than 10%

Age
From **19 years** old to **25 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **20**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Tabriz University of Medical Sciences

Street address
Golgasht St. Daneshgah St. Tabriz, Iran

City
Tabriz

Postal code

Approval date
2010-09-23, 1389/07/01

Ethics committee reference number
8927

Health conditions studied

1

Description of health condition studied
Oxidative Stress Damages

ICD-10 code
Y57.9

ICD-10 code description
Drug or medicament, unspecified

Primary outcomes

1

Description
Serum Malondialdehyde

Timepoint
14 day after the initiation of the intervention

Method of measurement
by thiobarbituric acid reactive substance (TBARS) and spectrophotometer

2

Description
Serum Total antioxidant capacity (TAC)

Timepoint
14 day after the initiation of the intervention

Method of measurement
by Frap Method.

3

Description
Creatine Kinase Activity

Timepoint
14 day after the initiation of the intervention

Method of measurement
by automatic analyzer and spectrophotometer

Secondary outcomes

1

Description
Blood Lactate

Timepoint
14 day after the initiation of the intervention

Method of measurement
by automatic analyzer .

2

Description
Peripheral blood leukocytes counts

Timepoint
14 days

Method of measurement
It will determine by automatic analyzer

3

Description
Maximal Oxygen Consumption

Timepoint
14 day after the initiation of the intervention

Method of measurement
by Bruce treadmill protocol

Intervention groups

1

Description
Dextrose, 2.5 mg/kg/day, for 14 days, after the supplementation period (14 days), all subjects participate in an exhaustive indoor climbing training for

60 minutes.

Category

Placebo

2

Description

Q10, 2.5 mg/kg/day, for 14 days, after the supplementation period (14 days), all subjects participate in an exhaustive indoor climbing training for 60 minutes.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

University of Tabriz

Full name of responsible person

Dr Afshar Jafari

Street address

Faculty of physical education & sports sciences, University of Tabriz, Tabriz, Iran.

City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Tabriz

Full name of responsible person

Dr Hamidreza Ghassemzadeh

Street address

University of Tabriz, 29 Bahman Ave, Tabriz, Iran.

City

Tabriz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

University of Tabriz

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

Person responsible for scientific inquiries

Contact

Name of organization / entity

University of Tabriz

Full name of responsible person

Dr Afshar Jafari

Position

PhD in Molecular Exercise Physiology

Other areas of specialty/work

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Web page address

Person responsible for updating data

Contact

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