

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Jul 2026

The effects of acute vitamin C and E supplementation on lipid peroxidation and delayed onset muscle soreness in basketball players

Protocol summary

Summary

The aim of the present study was to determine the combination of vitamin C and E supplementation on lipid peroxidation and delayed onset muscle soreness in basketball players. In randomized ,double blind placebo-controlled crossover pilot study 24 subjects took part in the experiment. All subjects were randomly divided into four groups ,vitamin C (VC, N=6) vitamin E (VC, N=6) vitamin C+E (VC, N=6) and placebo groups(P, N=6).All subjects were in complete health and didn't use any kind of drug.If use any kind of drug subject exit from study.On the day of the main trial subjects arrived in the laboratory and Blood samples were taken . The subjects from VC group consumed 1000 mg of vitamin C, subjects from VE group ingested 800 IU of vitamin E, subjects from VC+VE group ingested 1000 mg of vitamin C with 400 mg of vitamin E along, and subjects from control group consumed a placebo .Two hours after the supplementation, all players began the training protocol. The level of perceived muscle soreness in leg extensor muscles was evaluated, and venous blood sample was collected immediately after exercise. Twenty two hours after exercise, the players returned to the laboratory after an overnight fasting. All groups received the second dose of vitamin C (1000 mg),vitamin E (800IU),VC+VE (500mg+400IU) and placebo as above-mentioned respectively. Level of perceived muscle soreness in leg extensors muscles was evaluated, and venous blood sample was collected at 24 hours and 48 hours after exercise respectively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013062213738N1**

Registration date: **2013-10-08, 1392/07/16**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2013-10-08, 1392/07/16

Registrant information

Name

Ali Rabienejad

Name of organization / entity

Azad university gorgan branch

Country

Iran (Islamic Republic of)

Phone

+98 22 72862

Email address

alirabienejad@yahoo.com

Recruitment status

Recruitment complete

Funding source

private

Expected recruitment start date

2009-07-01, 1388/04/10

Expected recruitment end date

2009-07-03, 1388/04/12

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of acute vitamin C and E supplementation on lipid peroxidation and delayed onset muscle soreness in basketball players

Public title

Effect of vitamin C and E on lipid peroxidation

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: Complete safe ; Elite player ; On intensive training ; Not using drug and supplement ;No smoking
Exclusion criteria: Disease during study ; Using any kind of drug during study ; Injury

Age

From **18 years** old to **25 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

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

Azad univercity

Street address

Sanat scuar, Shahrake gharb

City

Tehran

Postal code

Approval date

2013-09-15, 1392/06/24

Ethics committee reference number

07/2-1278

Health conditions studied

1

Description of health condition studied

Delayed onset muscle soreness , Lipid peroxidation

ICD-10 code

m95-m99

ICD-10 code description

m63.8*

Primary outcomes

1

Description

Malondialdehyde

Timepoint

Before , Immediately (post-ex), 24 hour, 48 hour after exercise

Method of measurement

SATOH method

Secondary outcomes

1

Description

Plasma vitamin C

Timepoint

Before the first supplementation limmediately (post-ex), 24 hour, 48 hour after exercise

Method of measurement

By meta-phosphoric acid , 2,4-dinitrophenol hydrazine coloring agent, and copper sulfate

2

Description

serum vitamin E

Timepoint

before the first supplementation and immediately (post-ex), 24 hour, 48 hour after exercise

Method of measurement

HPLC method and uv detector

Intervention groups

1

Description

Vitamin C,1000 mg,Two hours before and twenty-two hours after the exercise

Category

Treatment - Drugs

2

Description

Placebo , Two hours before and twenty-two hours after the exercise

Category

Treatment - Drugs

3

Description

Vitamin E,Two hours before and twenty-two hours after the exercise

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Shardari sports club

Full name of responsible person

Street address

City

Gorgan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Azad university central tehran branch

Full name of responsible person

Azarbayjani Mohammad Ali

Street address

Sanat scuar

City

Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Azad university central tehran branch

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

Azad univercity

Full name of responsible person

Alirabienejad

Position

M.A/Teacher

Other areas of specialty/work

Street address

Daneshjo Avenu, Shahid kalantraí BLV

City

Gorgan

Postal code

Phone

+98 17 1335 2435

Fax

Email

Alirabienejad@yahoo.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Azad university

Full name of responsible person

Alirabienejad

Position

M.A/Teacher

Other areas of specialty/work

Street address

Daneshjo Avenu, Shahid kalantari BLV

City

Gorgan

Postal code

Phone

+98 17 1335 2435

Fax

Email

Alirabienejad@yahoo.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Azad university

Full name of responsible person

Alirabienejad

Position

M.A/Teacher

Other areas of specialty/work

Street address

Daneshjo Avenu, kalantari BLV

City

Gorgan

Postal code

Phone

Fax

Email

Alirabienejad@yahoo.com

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

