Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 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 Iimmediately (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
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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*