

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Evaluation of Cucurbita pepo effect on blood glucose reduction of patients with diabetes in intensive care unit.

Protocol summary

Summary

Stress induced hyperglycemia is a common problem in patients admitted to the ICU. It can be the result of increased levels of cortisol, catecholamine, glucagon and growth hormone or induced gluconeogenesis and glycogenolysis, also insulin resistance which occurs in 80% of patients can make the treatment process more complicated, and it will make it difficult to control blood glucose levels in patients admitted to the ICU.

Hyperglycemia during critical illness is associated with increased mortality, so it is important to control patient's blood glucose levels in ICU. Today traditional herbal medicine is a part of the treatment of diabetes. There are 800 plants utilized as empirical treatment for diabetes. One tenth of them have been characterized as hypoglycemic plants. Their common active compounds are musilage gum, glycans, flavonoids, triterpens and alkaloids. One of these plants that has been reported as an ant diabetic plant is Cucurbita L.pepo. Methods: fresh mature fruits of Cucurbita pepo were processed in an electric domestic extractor and the juice was collected.

The juice volume was decreased by vacuum-rotary evaporator at 40°C. Then dehydrated powder was obtained from freeze dryer. The powder was weighted as 5g sachets. This study is based on data from 20 diabetic patients admitted to Imam Reza and Shohada hospitals ICUs. The treatment with insulin was continued in these patients but still their blood glucose levels were high. Each 5g sachets dissolved in 200cc water and administrated orally each 12 hours for 3 days. Blood glucose levels were analyzed each 4 hours during administration days and 3 days before the prescription of Cucurbita pepo. Patients not treating with insulin, pregnant women and patients under the age of 18 years old were excluded from the study. The mean glucose and the dose of administrated insulin for each patient was calculated daily during 3days of taking Cucurbita pepo and 3 days before that to draw a comparison between administrating and not administrating Cucurbita pepo in

diabetic patients.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014070915956N2**

Registration date: **2014-08-30, 1393/06/08**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-08-30, 1393/06/08

Registrant information

Name

Hadi Hamishehkar

Name of organization / entity

Tabriz university of medical sciences

Country

Iran (Islamic Republic of)

Phone

+98 41 1334 1315

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Recruitment status

Recruitment complete

Funding source

Drug Applied Research Center

Expected recruitment start date

2012-08-05, 1391/05/15

Expected recruitment end date

2014-04-20, 1393/01/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of Cucurbita pepo effect on blood glucose reduction of patients with diabetes in intensive care unit.

Public title

Evaluation of pumpkin effect on blood glucose reduction of patients with diabetes in intensive care unit.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: patients with history of diabetes mellitus; patients who are treated by insulin; patients admitted in ICU; patients with uncontrolled diabetes with insulin. Exclusion criteria: patients not treating with insulin; pregnant women; patients under the age of 18 years old.

Age

From **18 years** old to **100 years** old

Gender

Both

Phase

1

Groups that have been masked

No information

Sample size

Target sample size: **20**

Randomization (investigator's opinion)

N/A

Randomization description**Blinding (investigator's opinion)**

Not blinded

Blinding description**Placebo**

Not used

Assignment

Single

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Tabriz University of Medical Sciences- Faculty of Pharmacy

Street address

Faculty of Pharmacy, Tabriz University of Medical Sciences

City

tabriz

Postal code**Approval date**

2012-10-29, 1391/08/08

Ethics committee reference number

91185

Health conditions studied**1****Description of health condition studied**

Diabetes mellitus

ICD-10 code

E10

ICD-10 code description

Insulin-dependent diabetes mellitus

Primary outcomes**1****Description**

Fasting blood level of glucose

Timepoint

Every morning before breakfast

Method of measurement

Blood glucose measurement (glucometry)

2**Description**

Blood level of glucose

Timepoint

Each 2 hours

Method of measurement

Blood glucose measurement (glucometry)

3**Description**

Hemoglobin A1C

Timepoint

Beginning of the study

Method of measurement

Laboratory report

Secondary outcomes**1****Description**

Dose of administered insulin

Timepoint

Every 2 hours

Method of measurement

Medical record

Intervention groups**1****Description**

Intervention group was given 5g Cucurbita pepo powder twice a day for 3 days.

Category

Recruitment centers

1

Recruitment center

Name of recruitment center

Shohada hospital

Full name of responsible person

Dr. Hadi Hamishehkar

Street address

City

Tabriz

2

Recruitment center

Name of recruitment center

Imam Reza hospital

Full name of responsible person

Dr. Hadi Hamishehkar

Street address

City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Drug Applied Research Center

Full name of responsible person

Dr. Hossein Babaei

Street address

Drug Applied Research Center, Daneshgah street

City

Tabriz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Drug Applied Research Center

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

Tabriz University of Medical Sciences

Full name of responsible person

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Position

Assistant professor

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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