Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 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

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Name of organization / entity
Tabriz university of medical sciences
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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 citeria: 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 adminstrated 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

Treatment - Drugs

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
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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