Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Jul 2026

The efficacy of using oral doxycycline with intravitreal Bevacizumab injection in diabetic patients with clinically significant macular edema

Protocol summary

Study aim

We have aimed to evaluate the efficacy of using oral Doxycycline on the number of intravitreal Bevacizumab injection, macular thickness and volume and visual acuity in diabetic patients with clinically significant macular edema (CSME).

Design

Phase 3 randomized controlled trial on 60 diabetic patients with CSME, enrolled between November 2018 and February 2019, receiving intervention for 4 months and then followed for 6 months.

Settings and conduct

Patients referred to the ophthalmology clinic of Imam Khomeini Hospital in Ahvaz were randomly divided into two equal groups. Fluorescence angiography was performed at the first visit. Pre and post-treatment changes in optical parameters including BCVA (Log MAR), CMT (µm) and macular volume (mm3) in optical coherence tomography (OCT) were assessed.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Diabetic patients with confirmed Clinically Significant Macular Edema Exclusion criteria: Patients with previous history of surgery for retinal detachment Patients with glaucoma Patients with uveitis Patients with macular geographic atrophy Patients with macular scar Patients with gastrointestinal distress

Intervention groups

Patients were randomly divided into two equal groups; Group A receiving 1.25 mg bevacizumab (Avastin, Genetech Co, San Francisco, USA) IV injection and group B receiving 1.25 mg IV injection of bevacizumab along with oral doxycycline (200 mg per day) (Hakim Pharmaceutical Co, Iran) for 4 months. Subsequently, all patients in both groups were followed up for 6 months.

Main outcome variables

Changes in central macular thickness and volume

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200720048150N1**
Registration date: **2020-10-28, 1399/08/07**
Registration timing: **retrospective**

Last update: **2020-10-28, 1399/08/07**
Update count: **0**

Registration date

2020-10-28, 1399/08/07

Registrant information

Name

Ebrahim Azizi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3336 4686

Email address

eazizi324@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-10-23, 1397/08/01

Expected recruitment end date

2019-01-20, 1397/10/30

Actual recruitment start date

2018-11-22, 1397/09/01

Actual recruitment end date

2019-02-21, 1397/12/02

Trial completion date

2020-02-15, 1398/11/26

Scientific title

The efficacy of using oral doxycycline with intravitreal Bevacizumab injection in diabetic patients with clinically significant macular edema

Public title
The efficacy of oral doxycycline with Bevacizumab in diabetes
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Diabetic patients with confirmed Clinically Significant Macular Edema
Exclusion criteria:
Patients with previous history of surgery for retinal detachment Patients with glaucoma Patients with uveitis Patients with macular geographic atrophy Patients with macular scar Patients with gastrointestinal distress
Age
No age limit
Gender
Both

Phase
3
Groups that have been masked
No information
Sample size
Target sample size: **60**
Actual sample size reached: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
The randomization was performed using the online software www.random.org. The random sequence of numbers was generated by a researcher external to the study team and concealment of the allocation was assured until the moment of the intervention, stored in opaque envelopes. The patients were allocated to the intervention group (IG) or to the control group (CG) by a researcher who did not apply the intervention or evaluated the outcomes. Intervention group: patients received 1.25 mg IV injection of bevacizumab (Avastin, Genetech Co, San Francisco, USA) along with oral doxycycline (200 mg per day) (Hakim Pharmaceutical Co, Iran) for 4 months. Control group: control group received 1.25 mg bevacizumab (Avastin, Genetech Co, San Francisco, USA) IV injection.
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethical committee of Ahvaz University of Medical Sciences
Street address
International Affairs Office, Ahvaz Jundishapur University of Medical Sciences, Golestan St. , Ahvaz , Iran
City
Ahvaz
Province
Khouzestan
Postal code
15794- 61357
Approval date
2019-03-16, 1397/12/25
Ethics committee reference number
IR.AJUMS.REC.1397.932

Health conditions studied

1

Description of health condition studied
Diabetes, Clinically significant macular edema
ICD-10 code
E11.3
ICD-10 code description
Type 2 diabetes mellitus with ophthalmic complications

2

Description of health condition studied
Diabetes, Clinically significant macular edema
ICD-10 code
E10.3
ICD-10 code description
Type 1 diabetes mellitus with ophthalmic complications

Primary outcomes

1

Description
Central macular thickness
Timepoint
Before intervention and 2, 4, 6 and 9 months after intervention
Method of measurement
Optical Coherence Tomography images were generated using the Fast Macular Thickness Scan consisting of six radial scans oriented 30 degrees from one another, each having a 2 mm axial depth and 6 mm transverse length. Each image had 10 µm axial and 20 µm transverse resolutions in tissue and consisted of 1024 axial pixels by 512 transverse pixels with a maximum scan velocity of 400 axial per second.

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: patients received 1.25 mg IV injection of bevacizumab (Avastin, Genetech Co, San Francisco, USA) along with oral doxycycline (200 mg per day) (Hakim Pharmaceutical Co, Iran) for 4 months.
Category
Treatment - Drugs

2

Description
Control group: control group received 1.25 mg bevacizumab (Avastin, Genetech Co, San Francisco, USA) IV injection.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Imam Khomeini Hospital, Ahvaz Jundishapur University of Medical Sciences
Full name of responsible person
Ali Kasiri
Street address
Department of Ophthalmology, Faculty of Medicine, Infectious Ophthalmic Research Center, Ahvaz Jundishapur University of Medical Sciences, Golestan street, Ahvaz
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Ahvaz
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Khouzestan
Postal code
15794- 61357
Phone
+98 61 3333 9196
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Email
Kasiri-a@ajums.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Ahvaz University of Medical Sciences
Full name of responsible person
Ali Kasiri
Street address
Department of Ophthalmology, Faculty of Medicine, Infectious Ophthalmic Research Center, Ahvaz Jundishapur University of Medical Sciences, Golestan street, Ahvaz
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Phone
+98 61 3333 9196
Email
Kasiri-a@ajums.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Ahvaz University of Medical Sciences
Proportion provided by this source
100
Public or private sector
Public
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Academic

2

Sponsor
Name of organization / entity
Ahvaz University of Medical Sciences
Full name of responsible person
Mohammad Badavi
Street address
Vice Chancellor for Research and Technology, Ahvaz medical university of science
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Ahvaz
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Khouzestan
Postal code
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Phone
+98 61 3336 2414
Email
eazizi324@gmail.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Ahvaz University of Medical Sciences
Proportion provided by this source
100
Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Ali Kasiri

Position

Assistant Professor

Latest degree

Subspecialist

Other areas of specialty/work

Ophthalmology

Street address

Department of Ophthalmology, Faculty of Medicine, Infectious Ophthalmic Research Center, Ahvaz Jundishapur University of Medical Sciences, Golestan street, Ahvaz

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Email

Kasiri-a@ajums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Ali Kasiri

Position

Assistant Professor

Latest degree

Subspecialist

Other areas of specialty/work

Ophthalmology

Street address

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Person responsible for updating data

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Ali Kasiri

Position

Assistant Professor

Latest degree

Subspecialist

Other areas of specialty/work

Ophthalmology

Street address

Department of Ophthalmology, Faculty of Medicine, Infectious Ophthalmic Research Center, Ahvaz Jundishapur University of Medical Sciences, Golestan street, Ahvaz

City

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Province

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Postal code

15794- 61357

Phone

0098 33339196

Email

Kasiri-a@ajums.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All individual participant data (IPD) consisting patient's general characteristics, efficacy of treatment and final conclusion are accessible for applicants

When the data will become available and for how long

All individual participant data (IPD) have been accessible for applicants from 5th June 2020

To whom data/document is available

Data products from this study will be made available without cost to researchers and analysts.

Under which criteria data/document could be used

Data will be made accessible through a public email (Kasiri-a@ajums.ac.ir) that allows querying as has been set up for a similar project.

From where data/document is obtainable

Applicants should send email to responsible person (Kasiri-a@ajums.ac.ir).

What processes are involved for a request to access data/document

Users must agree to the conditions of use governing access to the public release data, including restrictions against attempting to identify study participants, destruction of the data after analysis is completed, reporting responsibilities.

Comments