Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The effect of Light Emitting Diode Photobiomodulation on stability of dental implants in bone grafted cases

Protocol summary

Study aim

Evaluation The effect of Light Emitting Diode Photobiomodulation on stability of dental implants in bone grafted cases

Design

Randomized, blinded

Settings and conduct

A total of 8 patients with Double_sided or complete jaw Toothless which are eligible for study are selected from the Clients of the Implant Department of the Faculty and will be given an informed consent in the study after receiving consent. An implant placement surgery on both sides of the patient will be done by an experienced periodontist, and samples will be selected to implant placental tooth extraction with bone agment without advance flap and one-step placement. The patient is randomly selected and will be exposed to LED for 20 minutes on the day before the surgery and 10 consecutive sessions starting from the day of surgery. The trained person who is not aware of the study measures the implant stability quotient by the osstell apparatus on both sides of the patient immediately, one and three months after the operation, and records it in the same person's table.

Participants/Inclusion and exclusion criteria

No smoking Being healthy systemically The need for double-sided mandible or maxillary implant treatment that has the same surgical conditions Bone walls have four walls after tooth extraction lack of Fenestration and dehiscence pregnant women Presence of pathologic signs in the implant site Systemic diseases such as uncontrolled diabetes-cardiovascular disease-malignancy - head and neck radiotherapy - autoimmune diseases that make it difficult to repair soft and hard tissue. Patients who can not be placed in the form of one stage implantation and need to be submerge Using steroid medications, immunosuppressant and bisphosphonates

Intervention groups

one side of unilateral or bilateral partial edentulous patient after implant placement surgery with Photobiomodulation

Main outcome variables

implant stability quotient

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20121216011770N5**
Registration date: **2019-05-08, 1398/02/18**
Registration timing: **registered_while_recruiting**

Last update: **2019-05-08, 1398/02/18**
Update count: **0**

Registration date

2019-05-08, 1398/02/18

Registrant information

Name

Atabak Kashefimehr

Name of organization / entity

Tabriz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 41 1335 5965

Email address

kashefimehra@tbzmed.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-02-09, 1397/11/20

Expected recruitment end date

2019-05-10, 1398/02/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of Light Emitting Diode Photobiomodulation on stability of dental implants in bone grafted cases

Public title

The effect of LED Photobiomodulation on stability of dental implants in bone grafted cases

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

No smoking Being healthy systemically The need for double-sided mandible or maxillary implant treatment that has the same surgical conditions Bone walls have four walls after tooth extraction lack of Fenestration and dehiscence

Exclusion criteria:

pregnant women Presence of pathologic signs in the implant site Systemic diseases such as uncontrolled diabetes - cardiovascular disease - malignancy - head and neck radiotherapy - autoimmune diseases that make it difficult to repair soft and hard tissue. Patients who can not be placed in the form of one stage implantation and need to be submerge Using steroid medications, immunosuppressant and bisphosphonates

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **12**

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 Ethics Committee

Street address

Tabriz University of Medical Sciences, Daneshgah St.

City

Tabriz

Province

East Azarbaijan

Postal code

5166614711

Approval date

2019-02-03, 1397/11/14

Ethics committee reference number

IR.TBZMED.REC.1397.910

Health conditions studied

1

Description of health condition studied

Toothless

ICD-10 code

K08.1

ICD-10 code description

Complete loss of teeth

Primary outcomes

1

Description

Implant stability quotient

Timepoint

One and three months after surgery

Method of measurement

osstell device

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: one side of unilateral or bilateral partial edentulous patient after implant placement surgery with Photobiomodulation

Category

Treatment - Surgery

2

Description

Control group: one side of unilateral or bilateral partial edentulous patient after implant placement surgery without Photobiomodulation

Category

Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center
Tabriz Dental Faculty, Department of Periodontics

Full name of responsible person
Dr. Atabak Kashefimehr

Street address
Golgasht Street,Tabriz Dental Faculty

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5619941213

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Tabriz University of Medical Sciences

Full name of responsible person
Dr. Reza Pourabbas

Street address
Tabriz Dental Faculty, Golgasht Street

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Kashefimehra@tbzmed.ac.ir

Grant name

Grant code / Reference number

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

Title of funding source
Tabriz 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
Tabriz University of Medical Sciences

Full name of responsible person
Dr. Atabak Kashefimehr

Position
Periodontist, Assistant professor

Latest degree
Specialist

Other areas of specialty/work
Dentistry

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Person responsible for scientific inquiries

Contact

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Full name of responsible person
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Position
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Latest degree
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Person responsible for updating data

Contact

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Tabriz University of Medical Sciences

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Dr. Atabak Kashefimehr

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Web page address
http://dentistryfac.tbzmed.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 data has subscription capability

When the data will become available and for how long
Start the access period 6 months after printing the results

To whom data/document is available
All people

Under which criteria data/document could be used
No specific case

From where data/document is obtainable
Email Dr. Kashfi Mehr

What processes are involved for a request to access data/document
No specific case

Comments