Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Evaluation of the success rate of dental implants after Alveolar buccal cortex Reconstruction using Palatal bone graft

Protocol summary

Study aim
Determination of the success rate of dental implants after alveolar buccal cortex reconstruction using palatal bone graft

Design
Clinical trial, convenience sampling, preliminary study in 15 patients

Settings and conduct
In 15 patients referred to the oral, maxillofacial surgeon's office who are candidates for implants in maxillary incisors and have buccal defects; After tooth extraction and implant placement, crushed palatal bone graft will be used to reconstruct the buccal wall, and xenogeneic graft and collagen membrane will be used on it for guided bone regeneration (GBR).The success rate of these implants will be evaluated by examining the rate of bone resorption, the rate of failure, the rate of dehiscence and the rate of wound infection in the 6-month follow-up after surgery.

Participants/Inclusion and exclusion criteria
Inclusion criteria: 1) Candidate to receive an implant in maxillary incisors 2) Loss of buccal cortex of implant during surgery up to half of the implant 3) Availability of palatal bone for transplantation Exclusion criteria: 1) History of previous surgery in the desired area

Intervention groups
After extracting the teeth and placing the implant , the palatal graft will be harvested using the trephine method. The graft will be placed over the missing buccal area. Xenogenous graft and collagen membrane for GBR will be used on it. Amoxicillin, ibuprofen, chlorhexidine 0.12% mouthwash will be prescribed.

Main outcome variables
The rate of bone resorption Implant failure Envelope depth wound dehiscence wound infection

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20221111056472N1**
Registration date: **2022-12-15, 1401/09/24**
Registration timing: **prospective**

Last update: **2022-12-15, 1401/09/24**
Update count: **0**

Registration date
2022-12-15, 1401/09/24

Registrant information

Name
Parisa Seydabadi

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 23 3334 2127

Email address
parisaseydabadi6@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-12-22, 1401/10/01

Expected recruitment end date
2023-03-21, 1402/01/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Evaluation of the success rate of dental implants after Alveolar buccal cortex Reconstruction using Palatal bone graft

Public title
Application of Palatal bone graft in dental implants
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
candidate to receive an implant in the anterior of the maxilla (incisors) Loss of buccal cortex of implant during surgery up to half of the implant Intactness of other bone walls Availability of palatal bone for transplantation Intact soft tissue for implant coverage The patient's health in terms of systemic issues
Exclusion criteria:
Non-cooperation of the patient in terms of compliance with health issues Failure to visit the patient for follow-up Previous surgical history of the desired area
Age
No age limit
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **15**
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
Ethics Committee of Semnan University of Medical Sciences
Street address
Research and Technology Vice-Chancellor, Central Headquarters of Semnan University of Medical Sciences, Basij Blvd.
City
Semnan
Province
Semnan
Postal code
3514799442
Approval date
2022-10-25, 1401/08/03
Ethics committee reference number
IR.SEMUMS.REC.1401.180

Health conditions studied

1

Description of health condition studied
Placement of dental implants in the anterior of the maxilla after reconstruction of the buccal cortex using palatal bone grafting
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
The amount of bone loss
Timepoint
Three months and six months after surgery
Method of measurement
Periapical radiograph

2

Description
Implant success
Timepoint
Three months and six months after surgery
Method of measurement
observation

3

Description
probing depth of the pocket on the buccal surface of the implant
Timepoint
Three months and six months after surgery
Method of measurement
Michigan-O periodontal probe William's Color Coded Marking

4

Description
Wound dehiscence
Timepoint
Three months and six months after surgery
Method of measurement
observation

5

Description
Wound infection
Timepoint
Three months and six months after surgery
Method of measurement
observation

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: In 15 patients who visited the oral, maxillofacial surgeon's office, after teeth extraction and implant placement with the standard protocol, the palatal bone graft will be harvested using the trephine (crushed bone) method. The graft will be placed over the missing buccal area. Xenogenous bone graft and collagen membrane for guided bone regeneration (GBR) will be used on it. The soft tissue will be returned to the grafted area and fixed in place with a simple suture. For patients, Amoxicillin antibiotic every 8 hours for one week, Ibuprofen pain reliever every 6 hours for 48 hours and Chlorhexidine 0.12% mouthwash twice a day for one week will be prescribed.

Category
Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center
Oral, maxillofacial surgeon's office

Full name of responsible person
Mohammad Esmaeilinejad

Street address
2nd floor, Ferdous commercial service complex, Moalem square, Semnan, Iran

City
Semnan

Province
Semnan

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3514898533

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esmaeelnejad@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Semnan University of Medical Sciences

Full name of responsible person
Majid Mirmohammadkhani

Street address
Research and Technology Vice-Chancellor, Central Headquarters of Semnan University of Medical Sciences, Basij Blvd.

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majidmirmohammadkhani@yahoo.com

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
No

Title of funding source
Semnan University of Medical Sciences

Proportion provided by this source
1

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
Semnan University of Medical Sciences

Full name of responsible person
Parisa Seydabadi

Position
Student

Latest degree
A Level or less

Other areas of specialty/work
Dentistry

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2nd floor, No. 28, Sajjad II Alley, Sajjad Street, Twenty meters of Vahdat Boulevard

City
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Person responsible for scientific inquiries

Contact

Name of organization / entity
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Full name of responsible person

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Person responsible for updating data

Contact

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available