Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Comparison of the amount of vertical bone resorption by allograft and xenograft after extraction of maxillary anterior teeth with socket preservation technique

Protocol summary

Study aim
Comparison of the amount of vertical bone resorption by allograft and xenograft after extraction of maxillary anterior teeth with socket preservation technique

Design
The triple-blind, non-randomized clinical trial, on 15 patients.

Settings and conduct
The teeth will be extracted by an oral and maxillofacial surgeon in the department of oral and maxillofacial surgery of dental Faculty of Alborz University of Medical Sciences. This study is triple blind, so that neither the patient, nor the surgeon, nor the radiologist who examines the degree of bone resorption will know the allocation of the graft material to the tooth socket. After preparing the CBCT radiograph, the sockets will be grafted with grafting material together with absorbable membranes and the dental sockets will be sutured. Then, before the implant surgery, CBCT imaging of the patients will be prepared again and the software of Technical University (MaZda Poland, Electronics of Institute, Lodz) will be used to review all the images obtained in the axial section.

Participants/Inclusion and exclusion criteria
Inclusion criterion: patient over 18 years of age. Non-inclusion criteria: patient with systemic disease; smokers; patients with periodontitis in the site of extraction.

Intervention groups
Intervention group: anterior teeth on the right side of the maxilla; Allograft bone powder is used in the intervention group. Control group: anterior teeth on the left side of the maxilla; Xenograft bone powder is used in the control group.

Main outcome variables
Bone resorption amount after extraction of tooth

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20230215057429N1**
Registration date: **2023-05-31, 1402/03/10**
Registration timing: **prospective**

Last update: **2023-05-31, 1402/03/10**
Update count: **0**

Registration date
2023-05-31, 1402/03/10

Registrant information

Name
Armin Yazdanparast

Name of organization / entity
Alborz university of medical science- School of dentistry

Country
Iran (Islamic Republic of)

Phone
+98 21 2209 1769

Email address
armin.yazdanparast@icloud.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-07-01, 1402/04/10

Expected recruitment end date
2023-12-31, 1402/10/10

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of the amount of vertical bone resorption by allograft and xenograft after extraction of maxillary anterior teeth with socket preservation technique

Public title
The effect of bone grafting in reducing bone loss after tooth extraction

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Patients who have both similar maxillary anterior teeth in their oral cavity and have referred to remove both teeth Being at the age of 18 years and older

Exclusion criteria:
Smoker patient Periodontitis in the anterior of maxilla Infection after tooth extraction Patients with periodontitis at the surgical site

Age
From **18 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant
- Care provider
- Investigator
- Data analyser

Sample size
Target sample size: **30**
More than 1 sample in each individual
Number of samples in each individual: **2**
Two similar extracted teeth in each patient

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Triple blinded

Blinding description
The surgeon, patient and radiologist are not informed about the type of material used in filling the extracted tooth cavity by placing powders with the same appearance and amount in the same containers.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research Ethics Committee of Alborz University of Medical Sciences

Street address
Katooizade avenue, Golshahr, Karaj

City
Karaj

Province
Alborz

Postal code
3198684763

Approval date
2023-04-11, 1402/01/22

Ethics committee reference number
IR.ABZUMS.REC.1402.011

Health conditions studied

1

Description of health condition studied
changes in height of upper jaw bone after tooth extraction

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
height of maxillary bone

Timepoint
1th and 180th day after intervention

Method of measurement
CBCT Radiography

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: upper right anterior teeth; The tooth socket preservation technique is used for the study; Allograft produced by Iranian tissue company is used as bone powder. The dosage used of the powder depends on the patient's dental socket

Category
Treatment - Surgery

2

Description
Control group: upper left anterior teeth; The socket preservation technique is used for the study; xenograft

produced by Novatab company is used as bone powder. The dosage of the powder depends on the patient's dental socket.

Category

Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center

Dental School; Alborz University of Medical Sciences

Full name of responsible person

Armin Yazdanparast

Street address

No. 16, 5th west alley; Morvarid avenue, Saadat-abad

City

Tehran

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Email

Armin.yazdanparast@icloud.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Karaj University of Medical Sciences

Full name of responsible person

Arghavan Etebarian

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Grant name

Grant code / Reference number

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

No

Title of funding source

Dental School; Karaj 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

Karaj University of Medical Sciences

Full name of responsible person

Armin Yazdanparast

Position

student

Latest degree

A Level or less

Other areas of specialty/work

Dentistry

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Person responsible for scientific inquiries

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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