

Clinical Trial Protocol

Iranian Registry of Clinical Trials

08 Jul 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

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

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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**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