

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jul 2026

Comparative effect of Porous Titanium Granules and Bio-Oss on bone regeneration in periodontal defects

Protocol summary

Summary

Reconstruction of bony defects caused by periodontal disease is a major issue of periodontal treatments. Bone substitutes have long been used in reconstructive surgery in a previous defect area. The aim of this study is to evaluate the comparative effect of Bio-Oss and PTG (Porous Titanium Granules) on bone regeneration in periodontal vertical defects. Patients with vertical defects are selected for this study. At the first surgery parameters such as the height and the width of the defect will be measured and half of the defects (25 defects) will be filled with PTG and the other half will be filled by Bio-Oss. Six months later a re-entry surgery will be done and the same baseline parameters will be measured. The secondary outcomes are the differences between pocket depth, clinical attachment level, plaque index, bleeding on probing at the baseline and six months after the first surgery. This is a single blind (patients) study.

General information

Acronym

Porous Titanium Granules (PTG)

IRCT registration information

IRCT registration number: **IRCT2015102024622N1**

Registration date: **2015-11-22, 1394/09/01**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-11-22, 1394/09/01

Registrant information

Name

Samareh Kafilzadeh

Name of organization / entity

Hamedan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 8835 9991

Email address

s.kafilzadeh@edu.umsha.ac.ir

Recruitment status

Recruitment complete

Funding source

Hamedan University of Medical Sciences

Expected recruitment start date

2015-11-21, 1394/08/30

Expected recruitment end date

2016-04-19, 1395/01/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative effect of Porous Titanium Granules and Bio-Oss on bone regeneration in periodontal defects

Public title

The effect of a new bone material in the treatment of bony defects caused by periodontal disease

Purpose

Treatment

Inclusion/Exclusion criteria

Patients with at least one vertical defect assessed by clinical and radiographic evaluation Patients with no systemic disease

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked
No information

Sample size
Target sample size: **50**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Hamedan University of Medical Sciences

Street address
Hamedan- University of Medical Sciences

City
Hamedan

Postal code

Approval date
2015-08-15, 1394/05/24

Ethics committee reference number
IR.UMSHA.REC.1394.271

Health conditions studied

1

Description of health condition studied
Chronic periodontitis

ICD-10 code
K05.3

ICD-10 code description
Chronic Periodontitis

Primary outcomes

1

Description
depth of the defect

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

2

Description
width of the defect

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

Secondary outcomes

1

Description
keratinized tissue

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

2

Description
plaque index

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

3

Description
gingival recession

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

4

Description
bleeding on probing

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

5

Description
clinical attachment level

Timepoint
at the first surgery and 6 months later at a re-entry surgery

Method of measurement
using a periodontal probe

6

Description

pocket depth

Timepoint

at the first surgery and 6 months later at a re-entry surgery

Method of measurement

using a periodontal probe

Intervention groups

1

Description

treatment using porous titanium granules (PTG) in the test group. surgery is done using a full thickness with a distance of one tooth at each side of the defect. after flap reflection a complete debrement of the defect would be done.and the defect would be filled by bone substitutes.

Category

Treatment - Other

2

Description

treatment using Bio-Oss in the control group. surgery is done using a full thickness with a distance of one tooth at each side of the defect. after flap reflection a complete debrement of the defect would be done.and the defect would be filled by bone substitutes.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Hamedan University of Medical Sciences

Full name of responsible person

Samareh Kafilzadeh

Street address

City

Hamedan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Samareh Kafilzadeh

Full name of responsible person

Samareh Kafilzadeh

Street address

Department of Periodontology, Faculty of Dentistry,
Hamedan University of Medical Sciences, Hamedan

City

hamedan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Samareh Kafilzadeh

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Samareh Kafilzadeh

Position

Resident

Other areas of specialty/work

Street address

Department of Periodontology, Faculty of Dentistry,
Hamedan University of Medical Sciences, Hamedan

City

Hamedan

Postal code

Phone

+81 8247464

Fax

Email

sn4014@yahoo.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Samareh Kafilzadeh

Position

Resident

Other areas of specialty/work

Street address

Department of Periodontology, Faculty of Dentistry,
Hamedan University of Medical Sciences, Hamedan

City

Hamedan

Postal code

Phone

+81 38247464

Fax

Email
sn4014@yahoo.com
Web page address

+81 38247464
Fax
Email
Web page address

Person responsible for updating data

Contact

Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Samareh Kafilzadeh
Position
Resident of Periodontics
Other areas of specialty/work
Street address
Department of Periodontology, Faculty of Dentistry,
Hamedan University of Medical Sciences, Hamedan
City
Hamedan
Postal code
Phone

Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty