Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Jul 2026

Comparative effect of Nanobone and Bio-Oss on bone regeneration in periodontal defects: A randomized clinical trial

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 Nanobone 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 Nanobone and the other half will be filled by Bio-Oss. Six months later a re-entry surgery will be done and the same 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

IRCT registration information

IRCT registration number: **IRCT2016022624622N2**
Registration date: **2016-04-25, 1395/02/06**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2016-04-25, 1395/02/06

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

2016-03-31, 1395/01/12

Expected recruitment end date

2017-01-31, 1395/11/12

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative effect of Nanobone and Bio-Oss on bone regeneration in periodontal defects: A randomized clinical trial

Public title

The effect of a new bone material in the treatment of bony defects caused by periodontal disease: A randomized clinical trial

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion 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: **100**
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
2010-08-20, 1389/05/29
Ethics committee reference number
IR.UMSHA.REC.1394.468

Health conditions studied

1

Description of health condition studied
Chronic periodontitis
ICD-10 code
KO5.3
ICD-10 code description
Chronic Periodontits

Primary outcomes

1

Description
Depth of the defect
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

2

Description
Keratinized tissue
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

3

Description
Bleeding on probing
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

4

Description
Clinical attachment level
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

5

Description
Gingival recession
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

6

Description
Plaque index
Timepoint
At the first surgery day
Method of measurement
Disclosing agents

7

Description
Width of the defect
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

8

Description
Pocket depth
Timepoint
At the first surgery day
Method of measurement
Using a periodontal probe

Secondary outcomes

1

Description
Bleeding on probing
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

2

Description
Gingival recession
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

3

Description
Clinical attachment level
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

4

Description
Depth of the defect
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

5

Description
Pocket depth
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

6

Description
Keratinized tissue
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

7

Description
Width of the defect
Timepoint
6 months after first surgery
Method of measurement
Using a periodontal probe

8

Description
Plaque index
Timepoint
6 months after first surgery
Method of measurement
using disclosing agent

Intervention groups

1

Description
Treatment using Bio-Oss in the control group. Surgery is done using a full thickness flap with an extension of one tooth at each side of the defect. After flap reflection a complete debridement of the defect would be done and the defect would be filled by bone substitutes.
Category
Other

2

Description
Treatment using Nanobone in the test group. Surgery is done using a full thickness with extension of one tooth at each side of the defect. After flap reflection a complete debridement of the defect would be done and the defect would be filled by bone substitutes.
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Hamedan University of Medical Sciences
Full name of responsible person
vahid Raziani
Street address
City
Hamedan

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vahid Raziani
Full name of responsible person
Vahid Raziani
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
Vahid Raziani
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
Vahid Raziani
Position
Assistant 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
+98 81 3824 7464
Fax
Email
vahidraziani@gmail.com
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Vahid Raziani
Position
Assistant 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
+98 81 3824 7464
Fax
Email
vahidraziani@gmail.com
Web page address

Person responsible for updating data

Contact
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Vahid Raziani
Position
Assistant 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
+98 81 3824 7464
Fax
Email
vahidraziani@gmail.com
Web page address

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