Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Evaluation of Leukocyte & Platelet-Rich Fibrin Effect on Wound Healing Following Third Mandibular Molar Extraction in Zahedan Dental University Patients

Protocol summary

Study aim
Evaluating the Effect of Luekocyte & Platelet-Rich Fibrin (L-PRF) on Clinical Wound Healing after Extraction of Third Mandibular Molars

Design
A randomized clinical trial with control group,split-mouth, triple blinded, design of 30 patients,

Settings and conduct
30 patients that have entry criteria were selected from patients admitted to Zahedan Dental faculty.Each patient is considered as their own control, so that after the removal of the third molar tooth by the surgeon, one of the left or right dental sockets is randomly assigned to the L-PRF intervention group and the opposite side to the control group without L-PRF by another doctor. subsequent patient visits are also conducted through third instructor.

Participants/Inclusion and exclusion criteria
18 TO 35 Years Old Patients that have Third Mandibular Molar in Each Side

Intervention groups
In each patient,After extraction of both sides, one extraction socket is randomly treated with L-PRF, while the contralateral socket is left to heal naturally without intervention

Main outcome variables
pain intensity (measured via Visual Analog Scale), incidence of sudden pain, facial swelling (measured by tragus- commissure and tragus-pogonion distances), wound dehiscence, alveolar osteitis, postoperative infection, bleeding ,and soft tissue healing quality assessed by the Landry index

General information

Reason for update
Acronym

IRCT registration information
IRCT registration number: **IRCT20251229068487N1**
Registration date: **2026-02-16, 1404/11/27**
Registration timing: **prospective**

Last update: **2026-02-16, 1404/11/27**
Update count: **0**

Registration date
2026-02-16, 1404/11/27

Registrant information
Name
Sina Soleimani
Name of organization / entity
Country
Iran (Islamic Republic of)
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+98 21 2641 2426
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2026-02-19, 1404/11/30
Expected recruitment end date
2026-03-19, 1404/12/28
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Evaluation of Leukocyte & Platelet-Rich Fibrin Effect on Wound Healing Following Third Mandibular Molar

Extraction in Zahedan Dental University Patients

Public title
Evaluation of Leukocyte & Platelet-Rich Fibrin Effect on Wound Healing
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria:
Need Third Molar Extraction Possible to Perform Atraumatic treatment Not Smoker or Smoke less Than 10 Cigarettes Per Day General Health in Group ASA I or ASA II Minimum age 18 years and maximum age 35 years
Exclusion criteria:
Active Chronic Infection or Acute Pathological Lesion Existence In Site Pregnancy or Lactation Period General Health in Group ASA III or ASA IV History of Head And Neck Radiotherapy Using Medications That Interfere With Bone Metabolism And Scar Healing
Age
From **18 years** old to **35 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Investigator
- Outcome assessor
- Data analyser

Sample size
Target sample size: **30**
More than 1 sample in each individual
Number of samples in each individual: **2**
Each patient is considered as their own control, so that after the removal of the third molar tooth by the surgeon, one of the left or right dental sockets is randomly assigned to the L-PRF intervention group and the opposite side to the control group without L-PRF by another doctor.
Randomization (investigator's opinion)
Randomized
Randomization description
wax-sealed envelope are used.Envelops containing name Left or Right are prepared randomly.After the third molar removed by surgeon, the pockets are opened by surgical assistant, and according to this, the assistant inserts the L-PRF into desired cavity. One side is selected as the Intervention group, and the other side is only sutured as Control group
Blinding (investigator's opinion)
Triple blinded
Blinding description
During surgery,after the surgeon extract the wisdom teeth from both sides, they leave the operating room and the surgical assistant,based on randomly opened envelope, place the L-PRF inside one of the sockets and sutures each socket with same suture. These processes are carried out by a surgeon and surgical assistant, neither of whom participates in data analysis or evaluation stages.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Zahedan University of Medical Sciences
Street address
No 18 . Dibaj Ave .Mirdamad Blvd
City
Tehran
Province
Tehran
Postal code
1544913358
Approval date
2025-12-29, 1404/10/08
Ethics committee reference number
IR.ZAUMS.REC.1404.340

Health conditions studied

1

Description of health condition studied
Dry socket after third molar removal
ICD-10 code
K10.3
ICD-10 code description
Alveolitis of jaws

2

Description of health condition studied
Inflammation & Bleeding after third molar removal
ICD-10 code
T81.0
ICD-10 code description
Hemorrhage and hematoma complicating a procedure, not elsewhere classified

Primary outcomes

1

Description
Pain Reported by Patients
Timepoint
Day 2 & Day 7 after Tooth Extraction
Method of measurement
Pain Visualize Analog Scale

2

Description
Inflamation After Surgery
Timepoint
Before surgery / Day 2 and Day 7 after Tooth Extraction
Method of measurement
Tragus-Commissure and Tragus-Pog distance measured by flexible ruler

3

Description
Wound Dehiscence After Surgery
Timepoint
Day 2 & Day 7 after Tooth Extraction
Method of measurement
Visual Observation of Wound Dehiscency by Dentist

4

Description
Alveolar osteitis After Surgery
Timepoint
Day 2 & Day 7 after Tooth Extraction
Method of measurement
Presence of Pain & Mal-odor And Absence of Clot at the Site of Surgery Assessed by Dentist

5

Description
Infection After Surgery
Timepoint
Day 2 & Day 7 after Tooth Extraction
Method of measurement
Pus or Systemic Inflammatory Signs Like Fever and Progressive Inflamation

6

Description
Bleeding After Surgery
Timepoint
Day 2 After Tooth Extraction
Method of measurement
Bleeding Severity After Surgery Classified By Patients

7

Description
Tissue Healing After Surgery
Timepoint
Day 7 & Day 14 after Tooth Extraction
Method of measurement
Evaluation of Soft Tissue by Landry Index 1=very poor till 5=excellent

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: In each patient,After extraction of both sides,one extraction socket is randomly treated with L-PRF and sutured.Patients will follow up in terms of wound healing for 2 weeks.
Category
Treatment - Surgery

2

Description
Control group: In each patient,After extraction of both sides,one extraction socket without any intervention sutured.Patients will follow up in terms of wound healing for 2 weeks.
Category
Treatment - Surgery

Recruitment centers

1

Recruitment center
Name of recruitment center
Zahedan Medical Science Dental University
Full name of responsible person
Sina Soleimani
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No 18 . Dibaj Ave .Mirdamad Blvd
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Zahedan University of Medical Sciences
Full name of responsible person
Amir Hossein Khazaei
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Zahedan, East Azadegan Ave,Dental University
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9817699693
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Grant name

Grant code / Reference number

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

Yes

Title of funding source

Zahedan 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

Zahedan University of Medical Sciences

Full name of responsible person

Sina Soleimani

Position

Resident

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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Full name of responsible person

Sina Soleimani

Position

Resident

Latest degree

Medical doctor

Other areas of specialty/work

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Person responsible for updating data

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Position

Resident

Latest degree

Medical doctor

Other areas of specialty/work

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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

Not applicable

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