Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Investigation of the effect of bromelain supplementation on the healing of skin flaps applied after the resection of non-melanoma cancers in the head and neck region

Protocol summary

Study aim

The primary aim of this study is to determine the effect of bromelain on the healing of skin flaps after the resection of non-melanoma cancers in the head and neck region. The secondary objectives include: Comparing the effect of bromelain on the healing of skin flaps applied after the resection of non-melanoma cancers in the head and neck region based on the patient's age and gender, the location, the extent of macroscopic improvement and healing of skin flaps, prevention of necrosis, scar formation after surgery, aesthetic criteria and cosmetic satisfaction, pain severity and inflammation, incidence of surgical site infection, and potential side effects related to bromelain use.

Design

randomized, single-blinded due to unavailability of placebo, controlled clinical trial with a parallel group of 60 patients, and randomization was performed using a random number generator application.

Settings and conduct

Farhikhtegan Hospital in Tehran during the years 2024-2025.

Participants/Inclusion and exclusion criteria

Inclusion criteria: informed consent pathology confirmation indication for skin flap Exclusion criteria: diabetes immunosuppressed corticosteroid regimen radiotherapy melanoma diagnosis anticoagulants consumption incomplete follow up or missed information

Intervention groups

In the intervention group, an oral capsule branded as Anaheal 500 mg will be administered 3 times a day for 15 days. In the control group, routine wound dressing care will continue. The healing of skin flaps in both groups will be evaluated during a one-month follow-up period using standard criteria, including the rate of graft healing based on skin traction and the minimum number of days required for suture removal.

Main outcome variables

malignancy type; extent of lesion; rate of healing; pain and inflammation; surgical infection incidence; aesthetic; necrosis; adverse effects; groups (case and control)

General information

Reason for update

We performed recruitment of this prospective study after registration, as emphasized in other sections. There was a misstatement of “Actual recruitment start date” that resulted in the incorrect speculation. Hence, we revised the aforementioned matter accordingly.

Acronym

IRCT registration information

IRCT registration number: **IRCT20240903062943N1**
Registration date: **2024-10-28, 1403/08/07**
Registration timing: **prospective**

Last update: **2026-04-26, 1405/02/06**
Update count: **2**

Registration date

2024-10-28, 1403/08/07

Registrant information

Name

Amir Ehtemami

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 2640 0848

Email address

amir.ehtem@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date
2024-10-29, 1403/08/08
Expected recruitment end date
2025-07-22, 1404/04/31
Actual recruitment start date
2024-11-29, 1403/09/09
Actual recruitment end date
2025-09-22, 1404/06/31
Trial completion date
2025-09-22, 1404/06/31

Scientific title
Investigation of the effect of bromelain supplementation on the healing of skin flaps applied after the resection of non-melanoma cancers in the head and neck region

Public title
Investigation of the effect of bromelain supplementation on the healing of skin flaps
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
indication for skin flap after primary resection pathology confirmation informed consent to participate
Exclusion criteria:
malnutrition diabetes immunosuppressed corticosteroids regimens currently under radiotherapy diagnosis of melanoma warfarin administration (possible interaction with bromelain) incomplete follow-up and missed information
Age
No age limit
Gender
Both

Phase
2-3
Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **60**
Actual sample size reached: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
We will use randomization to assign each patient to either the intervention or control group using the website random.org. If the generated number is odd, the patient will be placed in the intervention group and receive bromelain. If the number is even, the patient will be placed in the control group without receiving the drug.
Blinding (investigator's opinion)
Single blinded
Blinding description
An independent collaborator (who was not involved in surgery, postoperative assessment, or suture removal) performed randomization and allication, which was concealed from the surgical and follow-up teams. However, participants were not blinded due to lack of placebo.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of the Faculty of Medicine, Islamic Azad University of Medical Sciences, Tehran
Street address
You’re right! The correct order for addressing in English would be: Administrative Building of Islamic Azad University of Medical Sciences, Tehran, Corner of Gole Yakh Street, Ayeneh Boulevard, Amir Pabarja Street, Gholhak Crossroad, Dr. Shariati Street, Tehran, Iran.
City
Tehran
Province
Tehran
Postal code
1949635881
Approval date
2024-05-11, 1403/02/22
Ethics committee reference number
IR.IAU.TMU.REC.1403.282

Health conditions studied

1

Description of health condition studied
non-melanoma cancers in the head and neck region
ICD-10 code
C44.4
ICD-10 code description
Other and unspecified malignant neoplasm of skin of scalp and neck

2

Description of health condition studied
surgical wound healing
ICD-10 code
ICD-10 code description

3

Description of health condition studied
skin flap
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
wound healing rate
Timepoint
at the beginning of study (before intervention) and from the second week, every other day
Method of measurement
minimum number of days required for suture removal based on skin traction

Secondary outcomes

1

Description
pain and inflammation severity
Timepoint
daily
Method of measurement
Visual Analogue Scale

2

Description
aesthetic and cosmetic satisfaction
Timepoint
at the end of follow-up
Method of measurement
Likert scale

3

Description
necrosis
Timepoint
at the beginning of study (before intervention) and from the second week, every other day
Method of measurement
clinical observation

4

Description
surgical site infection incidence
Timepoint
every other day
Method of measurement
clinical observation

5

Description
adverse effects of bromelains
Timepoint
every other day
Method of measurement
checklist

Intervention groups

1

Description
First intervention group: Capsule of bromelain 1500 mg is administered daily for 15 days.
Category
Treatment - Drugs

2

Description
Control group: no intervention
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Farhikhtegan hospital
Full name of responsible person
Ehsanollah Rahimi Movaghar
Street address
Shohadaye Hesarak Blvd, Tehran
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1477899679
Phone
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Email
farhikhteganhospital@gmail.com
Web page address
https://tms.iau.ir/farhikhtegan

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
Dr. Masoud Parsania
Street address
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Email
masoud_parsania@yahoo.com

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
No

Title of funding source
Tehran Islamic Azad University, faculty of Medicine

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
Islamic Azad University

Full name of responsible person
Amir Ehtemami

Position
Medical Doctor

Latest degree
Medical doctor

Other areas of specialty/work
General Practitioner

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Contact

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Ehsanollah Rahimi Movaghar

Position
assistant professor

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available

Study Protocol
Yes - There is a plan to make this available

Statistical Analysis Plan
Yes - There is a plan to make this available

Informed Consent Form
Yes - There is a plan to make this available

Clinical Study Report
Yes - There is 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

Title and more details about the data/document
The data related to the study objectives can be shared

after being de-identified.

When the data will become available and for how long

Access will begin at April 2025 and continue for 6 months after the publication of the results.

To whom data/document is available

Academic and scientific researchers

Under which criteria data/document could be used

Researchers in related fields such as surgery, wound care, cancer, and herbal medicines Review article researchers

From where data/document is obtainable

Amir Ehtemami: amir.ehtem@gmail.com Dr. Ehsanollah Rahimi Movaghar: ehsanrm81@gmail.com

What processes are involved for a request to access data/document

Emails sent to the provided addresses will be responded to as soon as possible.

Comments