

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jul 2026

Effectiveness of fractional co2 laser and the use of radiofrequency devices on atrophic acne scars

Protocol summary

Study aim

Determining the effectiveness of Fractional CO2 laser and the use of radiofrequency devices on atrophic acne scars in patients visiting Tehran Azad University Hospitals during 2023

Design

A clinical trial with two control groups, with parallel, unblinded, simple randomized groups, on 24 patients, was used for randomization from the random online table.

Settings and conduct

Patients with the diagnosis of atrophic acne scars referred to the affiliated hospitals of Islamic Azad University of Tehran are included in the study. Patients are randomly divided into two groups by the online table. Demographic and clinical information of patients, including age, sex, type of atrophic scar, skin color, etc., are collected using a questionnaire. Each person is treated in 4 sessions with three-week intervals. Patients are examined and evaluated at intervals of one, two and six months after the treatment.

Participants/Inclusion and exclusion criteria

Eligibility criteria: presence of complete patient information, consent to participate in the study, age over 18 years and under 70 years. Exclusion criteria: existence of disease background, pregnancy and breastfeeding, age under 18 and over 70 years, use of oral acne treatments in the past 6 months, skin infection such as impetigo or herpes simplex, history of severe skin disease, presence of active acne, history of Use of isotretinoin in the last 6 months, photosensitivity

Intervention groups

The first group receiving radiofrequency and fractional co2 and the second group receiving radiofrequency

Main outcome variables

Patients were asked about their level of satisfaction with the intervention, and the answers were collected in the form of a Likert scale. Also, the severity of acne scars of patients is measured by an experienced dermatologist in

follow-up sessions based on the quantitative scoring system of Baron and Goodman.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230426058003N1**

Registration date: **2023-05-16, 1402/02/26**

Registration timing: **registered_while_recruiting**

Last update: **2023-05-16, 1402/02/26**

Update count: **0**

Registration date

2023-05-16, 1402/02/26

Registrant information

Name

Sobhan Jangi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 4471 6472

Email address

sosobhanso@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-05-15, 1402/02/25

Expected recruitment end date

2024-01-01, 1402/10/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of fractional co2 laser and the use of radiofrequency devices on atrophic acne scars

Public title

Effectiveness of fractional co2 laser and radiofrequency on atrophic acne scars

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

The presence of complete patient information Consent to participate in the study Age over 18 years and under 70 years

Exclusion criteria:

Existence of disease background Pregnancy and breastfeeding Age below 18 and above 70 years Use of oral acne treatments in the past 6 months Suffering from a skin infection such as impetigo or herpes simplex History of severe skin disease Presence of active acne History of using isotretinoin in the last 6 months Photosensitivity

Age

From **18 years** old to **70 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple random, Individual, Online random table

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics Committee of Tehran Islamic Azad University
Medical Sciences Branch

Street address

No.16 west, Gol Yach West St., Aineh Blvd., Shahid

Pabarja St., Qalhak Crossroads, Shariati St.

City

Tehran

Province

Tehran

Postal code

1949635881

Approval date

2023-04-17, 1402/01/28

Ethics committee reference number

IR.IAU.TMU.REC.1402.031

Health conditions studied**1****Description of health condition studied**

Atrophic acne scars

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

The healing rate of atrophic scars

Timepoint

Patients are examined and evaluated at intervals of one month, two months and six months after the treatment.

Method of measurement

Patients were asked about their level of satisfaction with the intervention, and the answers were collected in the form of a Likert scale. Also, the severity of acne scars of patients is measured by an experienced dermatologist in follow-up sessions based on the quantitative scoring system of Baron and Goodman.

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group: The first intervention group received radiofrequency and fractional co2 and the second intervention group received radiofrequency. Each person is treated in 4 sessions with three-week intervals

Category

Treatment - Devices

Recruitment centers**1****Recruitment center****Name of recruitment center**

Farhikhtegan hospital

Full name of responsible person
Sobhan jangi
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
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Full name of responsible person
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No. 16 west, Gol Yakh ST., Iyane Blvd., Pabarja St.,
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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
Islamic Azad University
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
Sobhan jangi
Position
medical intern
Latest degree
Medical doctor
Other areas of specialty/work
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Person responsible for updating data

Contact

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further information

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available