

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Jun 2026

Comparison of Effectiveness of Fractional CO₂ Laser and Erbium Yag Laser in Treatment of Acne Scar in Patient Referred to Educational Clinical of Isfahan University of Medical Sciences

Protocol summary

Study aim

Comparison of Fractional CO₂ laser and Erbium yag laser in treatment of acne scar

Design

Clinical trial with two intervention group, two parallel group, double-blind, randomized on 30 patients. Excel software random function was used for randomization.

Settings and conduct

The study is performed in Al-Zahra Hospital in Isfahan in such a way that patients who meet the inclusion criteria enter the study. On the one side of their face erbium laser is used, and on the other side CO₂ laser is applied.

Participants/Inclusion and exclusion criteria

Having an acne scar on both sides of the face is a prerequisite for entry, and having a history of keloids and having a history of using isotretinoin in the last 6 months and having a history of injections in the last 6 months are prerequisite for exit.

Intervention groups

CO₂ laser and Erbium laser and their effects on improving acne scar

Main outcome variables

Improving acne scar, redness, and hyperpigmentation on face

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210217050399N1**

Registration date: **2021-08-25, 1400/06/03**

Registration timing: **registered_while_recruiting**

Last update: **2021-08-25, 1400/06/03**

Update count: **0**

Registration date

2021-08-25, 1400/06/03

Registrant information

Name

Zahra Safavi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3522 6240

Email address

maryam.safavi@uni-bonn.de

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-08-01, 1400/05/10

Expected recruitment end date

2021-11-01, 1400/08/10

Actual recruitment start date

2021-08-01, 1400/05/10

Actual recruitment end date

2021-11-01, 1400/08/10

Trial completion date

2021-11-01, 1400/08/10

Scientific title

Comparison of Effectiveness of Fractional CO₂ Laser and Erbium Yag Laser in Treatment of Acne Scar in Patient Referred to Educational Clinical of Isfahan University of Medical Sciences

Public title

laser in treatment of acne scar

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Presence of acne scar on both sides of the face

Exclusion criteria:

Past history of keloid Using isotretinoin in the last 6 months
Injection of filler in the last 6 months

Age

From **15 years** old to **70 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Data analyser

Sample size

Target sample size: **30**

Actual sample size reached: **30**

Randomization (investigator's opinion)

Not randomized

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Participants and the doctor who compares and scores both sides of the face are kept blind. Study participants do not know what kind of laser is done on each side of their face. Also, the doctor who has to score the improvement of each side does not know what kind of laser has been done on each side of the patients face.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Isfahan University of Medical Sciences

Street address

No.58, Mosadegh-zadeh Alley, Jey street, Isfahan

City

Isfahan

Province

Isfahan

Postal code

۸۱۵۶۹۱۳۴۵۳

Approval date

2019-04-14, 1398/01/25

Ethics committee reference number

IR.MUI.MED.REC.1397.294

Health conditions studied

1

Description of health condition studied

Acne scar

ICD-10 code

L70

ICD-10 code description

Acne

Primary outcomes

1

Description

Acne scar according to VAS SCORE

Timepoint

Before and one month after laser therapy

Method of measurement

questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group :The CO2laser is performed on one side of the face by a CO2laser device once a month for 3 months.

Category

Treatment - Other

2

Description

Intervention group :The Erbium YAG laser is performed on one side of the face by a Erbium YAG laser device once a month for 3 months.

Category

Treatment - Other

3

Description

Category

empty

Recruitment centers

1

Recruitment center

Name of recruitment center

Alzahra hospital

Full name of responsible person

Zahra Safavi

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No.58,Mosadegh-zadeh Alley,Jey street,Isfahan

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Dr Shaghayegh Haghjoo

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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

Esfahan 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

Esfahan University of Medical Sciences

Full name of responsible person

Zahra Safavi

Position

physician

Latest degree

Medical doctor

Other areas of specialty/work

Dermatology

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Zahra Safavi

Position

Physician

Latest degree

Medical doctor

Other areas of specialty/work

Dermatology

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Person responsible for updating data

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Name of organization / entity

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Position

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Latest degree

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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

Undecided - It is not yet known if there will be a plan to make this available

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