

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Evaluation the effect of conditioned media of adipose derived stem cells on healing of acne scar after fractional carbondioxide laser resurfacing

Protocol summary

Study aim

Evaluation the effect of conditioned media of adipose derived stem cells (ADSC) on healing of scar after fractional Carbon Dioxide(CO2) laser resurfacing

Design

This pilot study on 10 patients with moderate and severe acne scarring done. At each session, after receiving adequate anesthetic, the scars of the patients are treated with Fractional Laser Co2 on both sides of the face. In each session immediately after the laser, one side of the patient's face, the conditioned media of ADSC, and the other side of the face, the physiologic serum was applied locally to the scars area for one hour. This procedure is repeated 4 times at intervals of 4 weeks. All patients are photographed by digital camera before and after treatment. To determine the rate of improvement and compare two sides of the face at the end, patient photographs are reviewed by two blind dermatologist. Patient satisfaction is also recorded and the results are compared.

Settings and conduct

This design is done at the skin and stem cell research center of Tehran university of medical sciences and without the patient's knowledge, after the CO2 laser, one side of the face of conditioned media of ADSC and other side for blinding is used of the physiology serum in the scars.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age between 20-60; Developing middle to severe atrophic scars in face region. Exclusion criteria: Pregnancy and breastfeeding; Active infection in face; Using any local drugs on face except sun protection creams in last month

Intervention groups

First intervention group: One side of the face is treated with CO2 laser and conditioned media of adipose derived stem cells in the topical position. Second intervention group: The other side of the face is treated as a control group with CO2 laser and physiologic serum.

Main outcome variables

scar's surface; side effects; patient's satisfaction

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20080901001159N25**

Registration date: **2019-08-11, 1398/05/20**

Registration timing: **registered_while_recruiting**

Last update: **2019-08-11, 1398/05/20**

Update count: **0**

Registration date

2019-08-11, 1398/05/20

Registrant information

Name

Mohamad Ali Nilforoushzadeh

Name of organization / entity

Skin and Stem Cell Research Center, Tehran
University of Medical sciences

Country

Iran (Islamic Republic of)

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+98 21 2220 5158

Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-06-20, 1398/03/30

Expected recruitment end date

2019-08-21, 1398/05/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation the effect of conditioned media of adipose derived stem cells on healing of acne scar after fractional carbondioxide laser resurfacing

Public title

Evaluation the effect of conditioned media of adipose derived stem cells in the treatment of acne scars

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Age between 20-60 Having middle to severe atrophic scar in face region

Exclusion criteria:

Pregnancy and breastfeeding History of cancer Patients with active acne People with Mental Disorders Active infection in the face

Age

From **20 years** old to **60 years** old

Gender

Both

Phase

1

Groups that have been masked

- Participant

Sample size

Target sample size: **10**

More than 1 sample in each individual

Number of samples in each individual: **2**

A half face will be considered as the control group and one half as an intervention group.

Randomization (investigator's opinion)

Not randomized

Randomization description**Blinding (investigator's opinion)**

Single blinded

Blinding description

In each session, immediately after the laser on one side of the face, the conditioned media of adipose derived stem cells and the other side of the face saline solution is used topically on the scar.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ethics Committee of Tehran University of Medical Sciences

Street address

No 4, Maryam Alley, South Kamraniyeh Street, Tehran, Iran

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tehran

Province

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Postal code

1937957511

Approval date

2019-06-13, 1398/03/23

Ethics committee reference number

IR.TUMS.VCR.REC.1398.283

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

atrophic scar

ICD-10 code

L90.5

ICD-10 code description

Scar conditions and fibrosis of skin

Primary outcomes**1****Description**

Scar size

Timepoint

before and 3month after the intervention

Method of measurement

visioface

2**Description**

side effects

Timepoint

One week after session

Method of measurement

Questionnaire and visit

3**Description**

Patient Satisfaction

Timepoint

Three and six months after the last treatment session

Method of measurement

Questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Control group: (Other side of face) After sufficient anesthesia, first treatment with Fractional Laser Co2, and then physiological serum is applied topically to the site of the scars for one hour. This procedure is repeated 4 times with intervals of 4 weeks. .

Category

Treatment - Other

2

Description

Intervention group: One side of the face after being anesthetized, is first treated with Fractional Laser Co2, and then adipose conditioned media of adipose derived stem cells is applied topically to the scars for one hour. This procedure is repeated 4 times with intervals of 4 weeks.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Clinics of Skin and Stem cell Research Center of Tehran University of Medical Sciences

Full name of responsible person

Fariba Jaffary

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No 4, Maryam Alley, South Kamraniyeh Street, Tehran, Iran

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Web page address

<http://skinstemcell.ir/>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Skin and Stem cell Research Center of Tehran University of Medical Sciences

Full name of responsible person

Mohammad Ali Nilforoushzadeh

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Web page address

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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

Skin and Stem cell Research Center of Tehran 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

Skin and Stem cell Research Center of Tehran University of Medical Sciences

Full name of responsible person

Mehrak Zare

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Medical Biology

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Skin and Stem cell Research Center of Tehran
University of Medical Sciences

Full name of responsible person

Mohammad Ali Nilforoushzadeh

Position

Professor

Latest degree

Specialist

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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Researcher

Latest degree

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Other areas of specialty/work

Reproductive Biology

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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

Not applicable

Data Dictionary

Not applicable