Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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)

Phone

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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
City
tehran
Province
Tehran
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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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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Email
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Web page address
http://skinstemcell.ir/
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
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Full name of responsible person
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Position
Professor

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Specialist

Other areas of specialty/work
Dermatology

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Person responsible for updating data

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Researcher

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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