Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Comparison of the efficacy of microneedle radiofrequency combined with subcision vs microneedle radiofrequency alone in treatment of depressed acne scar

Protocol summary

Summary

Patients received microneedle radiofrequency on both sides of their faces during three sessions. There was a 4-week interval between each two sessions. Objectives: To compare the efficacy of microneedle radiofrequency in combination with subcision and microneedle radiofrequency alone in the treatment of depressed acne scars. Design: Randomized, single blind, clinical trial. Setting and Conduct: In this study, 25 patients were selected for acne scar treatment and primary data were collected and then eligible patients received subcision on one side of the face chosen randomly (Using random numbers table). After 2 weeks, Patients received microneedle radiofrequency on both sides of their faces during three sessions. There was a 4-week interval between each two sessions. Outcome measures were assessed by two dermatologists blinded to the randomization through serial photography at baseline and 3 months after the last therapy session. Inclusion criteria: Age ≥ 18 years; patient suffering from polymorphic and mixed acne scars; presence of acne scars on both sides of the face; Fitzpatrick skin types 2 to 4; informed consent for participation. Exclusion Criteria: presence of hypertrophic or Keloid scars. Conduct and interventions: Intervention group: in one side of the face, subcision was done and after 2 weeks, the process of treatment was followed by three sessions of microneedle radiofrequency. There was a 4-week interval between each two sessions. Control group: the other side of the face received microneedle radiofrequency without subcision during three sessions. There was a 4-week interval between each two sessions. Main Outcome Measures: Improvement of acne scar assessed by two dermatologists blinded to the randomization process (through serial photography).

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016103130597N1**
Registration date: **2017-01-26, 1395/11/07**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2017-01-26, 1395/11/07

Registrant information

Name

Nazila Poostiyan

Name of organization / entity

Isfahan University of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for research of Isfahan University of Medical Sciences

Expected recruitment start date

2015-11-06, 1394/08/15

Expected recruitment end date

2016-11-05, 1395/08/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Comparison of the efficacy of microneedle radiofrequency combined with subcision vs microneedle radiofrequency alone in treatment of depressed acne scar

Public title
Efficacy of microneedle radiofrequency with or without subcision for treatment of depressed acne scar
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: Age ≥ 18 year; patient suffering from polymorphic and mixed acne; the acne scars should be in both sides of the face; Fitzpatrick skin types 2 to 4; informed consent for participation in the study. Exclusion Criteria: patients who are suffering from hypertrophic or Keloid scars.
Age
From **18 years** old
Gender
Both

Phase
2
Groups that have been masked
No information
Sample size
Target sample size: **25**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Single blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features
In this study randomization was done based on random numbers table.

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Isfahan University of Medical Sciences
Street address
Deputy of research of Isfahan University of Medical Sciences, Hezar jerib Avenue, Isfahan.
City
Isfahan
Postal code
Approval date
2016-07-25, 1395/05/04
Ethics committee reference number
IR.MUI.REC.1395.3.325

Health conditions studied

1

Description of health condition studied
acne scar
ICD-10 code
L90.5
ICD-10 code description
Scar conditions and fibrosis of skin

Primary outcomes

1

Description
Atrophic scar of acne
Timepoint
Baseline,three months after the last therapy session
Method of measurement
Serial photography and evaluation by two dermatologists blinded to the randomization process

Secondary outcomes

1

Description
Edema; Erythema; Pruritis; Hypo and Hyper pigmentation
Timepoint
After two weeks of each therapy session
Method of measurement
Patient self administered checklist of overall satisfaction

2

Description
Clinical improvement of atrophic scar
Timepoint
Baseline,three months after the last therapy session
Method of measurement
Serial photography and evaluation by two dermatologists blinded to the randomization process

3

Description
Patients satisfaction
Timepoint
Three months after the last therapy session
Method of measurement
Patient self administered checklist of overall satisfaction

Intervention groups

1

Description
Intervention group: in one side of the face, subcision was done and after 2 weeks, the process of treatment was followed by three sessions of microneedle radiofrequency. There was a 4-week interval between each two sessions.
Category
Treatment - Devices

2

Description
Control group: the other side of the face received microneedle radiofrequency without subcision during three sessions. There was a 4-week interval between each two sessions.
Category
Treatment - Devices

Recruitment centers

1

Recruitment center
Name of recruitment center
Alzahra general hospital
Full name of responsible person
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2

Recruitment center
Name of recruitment center
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Full name of responsible person
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice Chancellor for research of Isfahan University of Medical Sciences
Full name of responsible person
Dr.Mehdi Nematbakhsh
Street address
Deputy of Research of Isfahan University of Medical Sciences, Hezar Jerib Avenue, Isfahan
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Isfahan
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Vice Chancellor for research of Isfahan University of Medical Sciences
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

Contact
Name of organization / entity
Skin disease and Leishmaniasis Research Center, Isfahan University of Medical Sciences,
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Person responsible for scientific inquiries

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty