

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Sep 2026

Comparison of CO2 laser partial nail matricectomy and lateral nail fold excision in the treatment of ingrowing nail

Protocol summary

Summary

The objective of this nonrandomized, trial is comparing the treatment effects and complications of the CO2 laser partial nail matricectomy and lateral nail fold excision in 100 patients suffering from ingrowing nail. In this study, patients presented with ingrowing nail and documented by dermatologist were included in study. Patients with Tinea unguium, subungual hyperostosis, pregnancy and anti-coagulant drugs consumption were excluded from the study. After taking the written informed consent, demographic and clinical data were recorded in a questionnaire. In one group of patients, after injection of lidocaine, a strip of nail matrix at involvement site was destroyed by CO2 laser. In another group, lateral nail fold under injection of anesthesia at involvement side was excised surgically. Patients were monitored before and after the treatment by photography. Patients were followed up for outcome and probable complications at the end of the first week and first month and later every 3 months for 1 year. Finally, the treatment outcomes including cure rate and complications such as infection, persistent pain and recurrence were compared by appropriate statistical test in two groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201604176403N6**

Registration date: **2017-06-06, 1396/03/16**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-06-06, 1396/03/16

Registrant information

Name

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Name of organization / entity

Kermanshah University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for research and technology of Kermanshah University of Medical Sciences

Expected recruitment start date

2012-06-23, 1391/04/03

Expected recruitment end date

2014-10-02, 1393/07/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of CO2 laser partial nail matricectomy and lateral nail fold excision in the treatment of ingrowing nail

Public title

Treatment of ingrowing nail by CO2 laser and lateral nail fold excision

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Clinically documented by dermatologist

Exclusion criteria: Tinea unguium, subungual hyperostosis, pregnancy and anti-coagulant drugs

consumption

Age
From **16 years** old to **40 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **100**

Randomization (investigator's opinion)
Not randomized

Randomization description

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 Kermanshah University of
Medical Sciences

Street address
Shahid Beheshti Blvd

City
Kermanshah

Postal code

Approval date
2014-11-14, 1393/08/23

Ethics committee reference number
35231/420/7/پ

Health conditions studied

1

Description of health condition studied
Ingrowing nail

ICD-10 code
L62*

ICD-10 code description
Nail disorders in diseases classified elsewhere

Primary outcomes

1

Description

Treatment of ingrowing nail

Timepoint
The end of 1th week, 1th, 3th, 6th, 12th months

Method of measurement
clinical observation

Secondary outcomes

1

Description
Infection

Timepoint
The end 1 week, 1th, 3th, 6th and 12th months

Method of measurement
Clinical observation and laboratory assesmsnt

2

Description
Persistant pain

Timepoint
The end 1 week, 1th, 3th, 6th and 12th months

Method of measurement
Clinical observation

3

Description
Recurrence

Timepoint
The end 1 week, 1th, 3th, 6th and 12th months

Method of measurement
Clinical observation

4

Description
Nail deformity

Timepoint
The end 1 week, 1th, 3th, 6th and 12th months

Method of measurement
Clinical observation

Intervention groups

1

Description
In one group partial nail matrix destructed by CO2 laser.

Category
Treatment - Devices

2

Description
In other group lateral nail fold exiced by surgery.

Category
Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center

Hajdaie clinic

Full name of responsible person

Street address

City

Kermanshah

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for research of Kermanshah

University of Medical Sciences

Full name of responsible person

Dr Behrooz Hamzeh

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Department of Vice Chancellor for reaserch and
technology,Shahid Beheshty Blvd

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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

Vice Chancellor for research of Kermanshah 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

Kermanshah University of Medical Sciences

Full name of responsible person

Dr Hossein Kavoussi

Position

Associate Professour

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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