Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effect of external oblique plane block and transabdominal plane block in acute postoperative pain of living liver donor

Protocol summary

Study aim
Comparison of the effect of external oblique plane block and transabdominal plane block in acute postoperative pain of living liver donor

Design
The present study is a randomized, double-blind, phase 2-3 clinical trial conducted in a parallel design. A total of 60 patients undergoing liver transplantation will be enrolled in the study. Eligible patients will be randomly assigned to two equal groups, A and B, using a block randomization method.

Settings and conduct
This study will be conducted in the recovery ward. All data will be collected after the surgery is completed by another person who is unaware of the type of intervention.

Participants/Inclusion and exclusion criteria
Inclusion Criteria:All liver donors (aged over 18) who are scheduled to undergo left hepatectomy. Exclusion Criteria: Allergy to the medications used in the study, any contraindications for EOP or TAP blocks, and morbid obesity (body mass index ≥ 40).

Intervention groups
Intervention Group (TAP Group): All patients will receive a standard anesthesia technique for induction. At the end of the surgical procedure, the Transversus Abdominis Plane (TAP) group will receive bilateral TAP blocks under ultrasound guidance, administering 20 milliliters of 0.25% ropivacaine for each block. Control Group (EOP Group):All patients will receive a standard anesthesia technique for induction. At the end of the surgical procedure, the Erector Spinae Block (EOP) group will receive bilateral EOP blocks under ultrasound guidance, administering 20 milliliters of 0.25% ropivacaine for each block.

Main outcome variables
Pain

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20121204011662N17**
Registration date: **2025-03-05, 1403/12/15**
Registration timing: **prospective**

Last update: **2025-03-05, 1403/12/15**
Update count: **0**

Registration date
2025-03-05, 1403/12/15

Registrant information

Name
Mohammad Ali Sahmeddini

Name of organization / entity
Shiraz University Of Medical Sciences

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-04-01, 1404/01/12

Expected recruitment end date
2025-12-01, 1404/09/10

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date

empty

Scientific title
Comparison of the effect of external oblique plane block and transabdominal plane block in acute postoperative pain of living liver donor

Public title
Comparison of the Effects of Two Types of Block on Postoperative Pain in Liver Donors

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
All liver donors (>۱۸ years of age) who will be underwent left hepatectomy

Exclusion criteria:
Allergy to the drugs used in the study any contraindication for EOP or TAP blocks morbid obesity (body mass index ≥۴۰)

Age
From **18 years** old

Gender
Both

Phase
2-3

Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description
Patients will be randomly allocated into 2 groups by block randomization. In this technique, a permutation block of size 6 will be made for patients of 2 groups A and B. In each block, equal numbers for 2 groups will be considered in alternative positions. Then 5 blocks of size 6 will be selected randomly and patients will be allocated randomly and equally into 2 groups according to these permutation block. block sequence will be prepare by www.sealedenvelope.com.

Blinding (investigator's opinion)
Single blinded

Blinding description
Informed consent is obtained from the patient prior to surgery. All data is collected after the surgery by a second person who is unaware of the type of intervention.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Shiraz Medical School

Street address
3rd Floor, 3rd buiding of the Shiraz Medical School, Zand Blvd.

City
Shiraz

Province
Fars

Postal code
197871345

Approval date
2024-12-28, 1403/10/08

Ethics committee reference number
IR.SUMS.REC.1403.390

Health conditions studied

1

Description of health condition studied
liver transplantation

ICD-10 code
Y83.0

ICD-10 code description
Surgical operation with transplant of whole organ as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure

Primary outcomes

1

Description
Pain after surgery

Timepoint
At 6, 12, and 24 Hours Post-Operation

Method of measurement
Numerical Rating Scale (NRS)

2

Description
ICU length of stay

Timepoint
After discharge

Method of measurement
Patient history (by day)

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group (TAP group): All patients will receive a standardized anesthetic technique for induction with ۱۰۰-۲۰۰ mcg fentanyl, ۲-۳ mg/kg propofol, and ۰.۱۵ mg/kg cis-atracurium and ۰.۱ mg/kg morphine. At the end of surgery, transversus abdominis plane (TAP) group will be received ultrasound (US)-guided Bilateral TAP blocks using ۲۰-ml volume of ropivacaine ۰.۲۵% for each.

Category
Treatment - Other

2

Description
Control group(EOP group): All patients will receive a standardized anesthetic technique for induction with ۱۰۰-۲۰۰ mcg fentanyl, ۲-۳ mg/kg propofol, and ۰.۱۵ mg/kg cis-atracurium and ۰.۱ mg/kg morphine. At the end of surgery, texternal oblique plane (EOP) group will be received ultrasound (US)-guided Bilateral EOP blocks using ۲۰-ml volume of ropivacaine ۰.۲۵% for each.

Category
Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Abu-Alisina hospital

Full name of responsible person
Fatemeh Khalili

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No. 958, Boostan Blvd, Sadra New City.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Shiraz University of Medical Sciences

Full name of responsible person
Hamid Mohammadi

Street address
7th floor, central building of Shiraz University of Medical Sciences, Vice Chancellor of research, Zand street.

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mohammadi@sums.ac.ir

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
No

Title of funding source
Shiraz 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
Shiraz University of Medical Sciences

Full name of responsible person
Fateme Khalili

Position
Fellowship of Intra-abdominal organ transplantationAnesthesia

Latest degree
Subspecialist

Other areas of specialty/work
Anesthesiology

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Person responsible for scientific inquiries

Contact

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Person responsible for updating data

Contact
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Bachelor
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saeedi.hamide@gmail.com

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