

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 Jul 2026

The evaluation of different dialysate potassium concentration on cardiac arrhythmia during hemodialysis in End Stage Renal Disease (ESRD) patients

Protocol summary

Summary

End Stage Renal Disease (ESRD) is the last stage of chronic renal failure requiring replacement therapy with dialysis or a kidney transplant. Currently, 14,000 people in Iran are hemodialysis, the most common cause of death in patients is cardiovascular disorders, including cardiac arrhythmias such as Atrial Fibrillation (AF) and Ventricular Premature Contraction (PVC). Hemodialysis due to changes in electrolyte imbalance plays a role in these arrhythmias. The effect of dialysis solutions, with different concentrations of potassium, causing cardiac arrhythmias during hemodialysis in patients with advanced renal failure. In this study, we recruited a total of 90 patients who have passed at least 2 weeks of hemodialysis with no history of heart failure, myocardial infarction and cardiac pacemaker. They were randomly divided into control and experimental groups. The control group receive a dialysis solution of potassium 2mmol/lit and the experimental group receive a dialysis solution of potassium 3mmol/lit and Halter monitoring was performed during hemodialysis. Halter monitoring results will be analyzed by cardiologists and type and number of arrhythmias was statistically comparable in both groups.

General information

Acronym

ESRD,AF,PVC,CKD

IRCT registration information

IRCT registration number: **IRCT201104206241N1**

Registration date: **2012-01-08, 1390/10/18**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2012-01-08, 1390/10/18

Registrant information

Name

Masihollah Shakeri

Name of organization / entity

Ahvaz University Of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 917 792 1924

Email address

shakeri.m@ajums.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Ahvaz University of Medical Sciences

Expected recruitment start date

2011-06-21, 1390/03/31

Expected recruitment end date

2011-10-22, 1390/07/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The evaluation of different dialysate potassium concentration on cardiac arrhythmia during hemodialysis in End Stage Renal Disease (ESRD) patients

Public title

Evaluation of cardiac arrhythmia in End Stage Renal Disease (ESRD) patient during hemodialysis

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: All of ESRD patients who have started hemodialysis since two weeks ago. Exclusion criteria: a) old M.I with Q wave in ECG or acute M.I during hemodialysis; b) non sinusoidal rhythm and multiple PVC; c) with heart pace maker; d) the consumption of digital drug and chemotherapy medication in recently 2 weeks; e) heart EF<40% and severe heart valvular diseases in recently 3 months; f) non functional catheter or fistula or inadequate blood supply during hemodialysis.

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 90

Randomization (investigator's opinion)

Randomized

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

Double blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ahvaz University of Medical Sciences

Street address

University City, Ahvaz

City

Ahvaz

Postal code**Approval date**

2011-04-16, 1390/01/27

Ethics committee reference number

ETH-130

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

End Stage Renal Disease

ICD-10 code

N18.0

ICD-10 code description

End Stage Renal Disease

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

Cardiac arrhythmias during hemodialysis

Timepoint

During hemodialysis

Method of measurement

Holter monitoring

Secondary outcomes**1****Description**

Potassium

Timepoint

Before and After hemodialysis

Method of measurement

Blood sample

2**Description**

Calcium

Timepoint

Before and After hemodialysis

Method of measurement

Blood sample

3**Description**

PH of blood

Timepoint

Before and After hemodialysis

Method of measurement

Blood sample

Intervention groups**1****Description**

Hemodialysis in control group with dialysate 2mmol/eq

Category

Treatment - Other

2**Description**

Experimental group with dialysate 3mmol/eq

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Emam Khomaini hospital

Full name of responsible person

Masihollah Shakeri

Street address

Emam Khomaini hospital

City

Ahvaz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

vice chancellor for research, Ahvaz University of Medical Sciences

Full name of responsible person

Dr. Mostafa Feghi

Street address

University City

City

Ahvaz

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, Ahvaz 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

Ahvaz University of Medical Sciences

Full name of responsible person

Dr. Masihollah Shakeri

Position

Resident of Internal Medicine

Other areas of specialty/work

Street address

Emam khomaini hospital

City

Ahvaz

Postal code

Phone

+98 917 792 1924

Fax

Email

dr_shakerim@yahoo.com

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Dr. Saied Saifollah Beladi Mousavi

Position

Assistant professor

Other areas of specialty/work

Street address

Emam Khomaini hospital

City

Ahvaz

Postal code

Phone

+98 916 306 8063

Fax

Email

beladimusavi@yahoo.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Dr. Masihollah Shakeri

Position

Resident

Other areas of specialty/work

Street address

Emam Khomaini hospital

City

Ahvaz

Postal code

Phone

Fax

Email

dr_shakerim@yahoo.com

Web page address

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