

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Jun 2026

A Phase III, randomized, two armed, multicenter, parallel, double blind (patient and assessor blinded), active controlled non inferiority clinical trial to determine the non inferior therapeutic efficacy and safety between Beta erythropoietin ® (CinnaPoietin) and Eprex® (epoetin alpha) on treatment of anemia in End stage renal disease (ESRD) hemodialysis patients

Protocol summary

Summary

The study is designed as phase III, randomized, two armed, multicenter, parallel, double blind (patient and assessor blinded), active controlled non inferiority clinical trial with primary outcomes of mean hemoglobin level change and the mean weekly epoetin dosage per kg body weight in anemic patients with End stage renal disease (ESRD) under hemodialysis to assess the non inferiority effect of CinnaPoietin® (Beta erythropoietin) compared with Eprex® (epoetin alpha) in correction of hemoglobin level. Participants include 18 to 70 years old ESRD patients who are on hemodialysis for ≥ 3 months with Hb level 8- 11.5 g/dl on adequate hemodialysis (more details have been described in eligibility criteria section). The treatment proposed in this study was elaborated according to the KDIGO guidelines. Before the beginning of the protocol, for the patient to be able to enter the treatment, it shall be controlled that the iron (Fe) stores are adequate. In addition to main intervention, Nephrovit tablet /daily and B12 100 mcg (Amp)/monthly will be Will be prescribed for each patient. Pre-intervention treatment with iron will be of interest to reach a transferrin saturation percentage (TSAT) $\geq 20\%$ and a ferritin $\geq 200\text{ng/ml}$. In Cinnapoietin group, the starting dose is 60 (50-100) IU/kg body weight/week for naïve patients. Administration dose for patients who are treated with erythropetin is similar dose of previously administered amount (IV or SC without any change). After then, dose adjustment will be done based on patients' response. All the procedures and interventions in Eprex® (epoetin alpha) group will be conducted as CinnaPoietin® group, fully described above. Mean Hb change level during the last 4 weeks of

treatment and the mean weekly epoetin dosage per kg body weight during the last 4 weeks of treatment necessary to maintain the Hb level within 10-12 g/dl will be considered as primary endpoints. Patients will be followed for 26 weeks and visited every two weeks every two weeks.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201601156135N6**

Registration date: **2016-01-17, 1394/10/27**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2016-01-17, 1394/10/27

Registrant information

Name

Hamed Hosseini

Name of organization / entity

Clinical Trial Center (CTC), Tehran University of Medical Sciences (TUMS)

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Iran (Islamic Republic of)

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hhosseini@sina.tums.ac.ir

Recruitment status

Recruitment complete

Funding source

CinnaGen Pharmaceutical Company

Expected recruitment start date

2016-03-01, 1394/12/11

Expected recruitment end date

2017-08-11, 1396/05/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A Phase III, randomized, two armed, multicenter, parallel, double blind (patient and assessor blinded), active controlled non inferiority clinical trial to determine the non inferior therapeutic efficacy and safety between Beta erythropoietin ®(CinnaPoietin) and Eprex® (epoetin alpha) on treatment of anemia in End stage renal disease (ESRD) hemodialysis patients

Public title

CinnaPoietin® versus Eprex® on treatment of anemia in End stage renal disease (ESRD) hemodialysis patients

Purpose

Treatment

Inclusion/Exclusion criteria

• Aged between 18 and 70 • ESRD patients who are on hemodialysis for ≥ 3 months. • Hb level 8- 11.5 g/dl • Patients are on adequate hemodialysis: the minimally adequate dose of hemodialysis given 3 times per week should be a spKt/V (single-pool delivered Kt/V; clearance of urea x dialysis time/volume of distribution) of 1.2 per dialysis. For treatment periods of less than 5 hours, an alternative minimum dose is a urea reduction rate (URR) of 65%. All types of hemodialysis systems and hemodiafiltration, including high-flux membranes are allowed as long as there is no plan to change the patient's regimen during the study. • Sufficient iron stores, defined as serum ferritin ≥ 200 ng/ml and transferrin saturation $\geq 20\%$. (Patients not meeting these criteria may receive iron supplementation therapy during the Screening and stabilization period to appropriately correct their iron store deficiency to meet the criterion required for randomization); • who present iron stores according to the KDIGO guidelines; • Ability to comply with study medication use, study visits, and study procedures as judged by the investigator; • Females of childbearing potential agree to use an acceptable method of birth control (e.g., abstinence, hormonal or barrier methods, partner sterilization, or IUD) for the duration of the study. • Qualified and willing to sign the informed consent form with the commitment of complying with all the scheduled visits, and study procedures as judged by the investigator; • In any circumstances that potential participants are not able to give consent, it may be given by responsible parents or guardian. Exclusion Criteria: • Uncontrolled hypertension (defined as pre-dialysis diastolic blood pressure ≥ 100 mmHg or systolic blood pressure ≥ 180 mmHg); • Anemia secondary to other causes different to the CKD

(e.g. multiple myeloma, aplastic anemia, leukemia;....) • Decompensated liver failure; • Clinical evidence of concurrent uncontrolled hyperparathyroidism (defined as serum parathyroid hormone (iPTH) > 800 pg/ml); • Heart failure [New York Heart Association (NYHA) class III and IV]; • Unstable angina pectoris, active cardiac disease, stroke and/or cardiac infarction within the last six months; • History of or active blood coagulation disorders including DVT, PTE, native access Thrombosis during last six months. • Thrombocytosis (platelet count $> 500,000/\mu\text{l}$); • Thrombocytopenia (platelet count $< 100,000/\mu\text{l}$); • White blood cell count $< 3,000/\mu\text{l}$); • White blood cell count $> 15,000$) • Recent Bleeding (acute or chronic bleeding within three months prior to screening); • Suspicion of or confirmed occult bleeding (increased reticulocyte count); • Clinical evidence of concurrent systemic infection, or inflammatory disease (e.g; diabetic foot, bed sore, access infection, CRP > 30 ,...) • Currently receiving treatment for epilepsy; • Major surgery within 3 months prior to randomization and during the conduct of the trial (except vascular access surgery); • Concomitant immunosuppressive therapy; patients on a short course of steroids (up to 7 days), topical or intranasal steroids are allowed in the study; • History of any malignant disease within the last 5 years (except excised non-melanoma skin cancer); • Women who are pregnant or breastfeeding; • Known history of severe drug-related allergies; • Known history of drug related allergy to Erythropoietin or one of the ingredients of the test or the reference products or hypersensitivity to mammalian-derived products; • Transplant received within one year prior to the start of the study; • Simultaneous participation in another clinical study or having received an Investigational Medicinal Product within three months before randomization in this study. • Psychiatric, addictive (drugs or alcohol) or any other disorder that compromises the ability to give an informed consent; • Any red blood cell transfusion during the last 3 months (measured at the time of eligibility verification); • Primary hematological disorder (e.g. myelodysplastic syndrome, myeloma, sickle cell anemia, hematological malignancy, multiple myeloma hemolytic anemia); • known resistance to the rHuEPO defined by a requirement > 450 IU/kg/week by IV or 300 IU/kg/week by SC, equivalent to approximately 20.000 IU/week SC and in absence of iron deficiency; • who have suffered an event of active bleeding in the 30 days prior to the beginning of the study; • Morbid obesity, defined by a Body Mass Index (BMI) > 37 kg/m² in women and > 40 kg/m² in men.

Age

From **18 years** old to **70 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **156**

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

Tehran University of Medical Sciences

Street address

TUMS Ethic Committee, 6th floor, Central Building,
Ghods st, Keshavarz Blvd, Teahran, Iran

City

Tehran

Postal code

Approval date

2015-10-17, 1394/07/25

Ethics committee reference number

IR.TUMS.MED.REC.1394.969

2

Ethics committee

Name of ethics committee

Shiraz University of Medical Sciences

Street address

Shiraz, Iran.

City

Shiraz

Postal code

Approval date

2015-12-05, 1394/09/14

Ethics committee reference number

IR.SUMS.MED.REC.1394.s50

Health conditions studied

1

Description of health condition studied

Chronic kidney disease

ICD-10 code

N18

ICD-10 code description

Chronic kidney disease

Primary outcomes

1

Description

- mean Hb change level during the last 4 weeks of treatment

Timepoint

during 26 weeks every 2 week

Method of measurement

CBC test

2

Description

mean weekly epoetin dosage per kg body weight during the last 4 weeks of treatment

Timepoint

during 26 weeks every 2 week

Method of measurement

Total dose administered

Secondary outcomes

1

Description

Proportion of patients with any permanent or transient dose change during main study phase

Timepoint

during 26 weeks every 2 week

Method of measurement

any dose change

2

Description

proportion of patients with any Hb measurement outside the target range

Timepoint

during 26 weeks every 2 week

Method of measurement

CBC test

3

Description

incidence of blood transfusions

Timepoint

during 26 weeks follow up

Method of measurement

count of blood transfusion event

4

Description

Proportion of patients with treatment success

Timepoint

during 26 weeks every 2 week

Method of measurement

Hb concentration ≥ 11.0 g/dl or two consecutive weeks without any blood transfusion within the preceding 3 months

5

Description

The incidence of Hb levels above 13 g/dL

Timepoint

during 26 weeks every 2 week

Method of measurement

CBC test

6

Description

Proportion of patients with an increase in Hb concentration of > 1.0 g/dL for 4 weeks

Timepoint

during 26 weeks every 2 week

Method of measurement

CBC test

Intervention groups

1

Description

In Cinnapoeitin group, the starting dose is 60 (50-100) IU/kg body weight/week for naïve patients. Administration dose for patients who are treated with erythropetin is similar dose of previously administered amount (IV or SC without any change). After then, dose adjustment will be done based on patients' response.

Category

Treatment - Drugs

2

Description

In Eprex group, the starting dose is 60 (50-100) IU/kg body weight/week for naïve patients. Administration dose for patients who are treated with erythropetin is similar dose of previously administered amount (IV or SC without any change). After then, dose adjustment will be done based on patients' response.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Ghiasi Hospital

Full name of responsible person

Mohammad Reza Abbasi

Street address

Rejaei st., Banaei, Valiasr, YaftAbad

City

Tehran

2

Recruitment center

Name of recruitment center

Shafa Hospital

Full name of responsible person

Jalal Azmandian

Street address

Shafa St., Kerman

City

Kerman

3

Recruitment center

Name of recruitment center

Hashemi Nejad Hospital, Iran University of Medical Sciences

Full name of responsible person

Shahrzad Ossareh ; Hooshang Sanadgol

Street address

Iran University of Medical Sciences, Vanak sq., Tehran 1969714713-Iran

City

Tehran

4

Recruitment center

Name of recruitment center

Emam Hosein Hospital

Full name of responsible person

Dr. Amir Ahmad Nasiri

Street address

Emam hossein hospital, Madani St.,Tehran

City

Tehran

5

Recruitment center

Name of recruitment center

MADAR dialysis center

Full name of responsible person

Dr. Amir Ahmad Nasiri

Street address

MADAR dialysis center, 58th street, Sani St., Tehran.

City

Tehran

6

Recruitment center

Name of recruitment center

Javad-al-Aemeh clinic

Full name of responsible person

Dr. Jalal Azmandian

Street address

Javad-al-Aemeh hospital, Alley number 25, North Abuzar Street

City

Kerman

7

Recruitment center

Name of recruitment center

Haj ebrahimi dialysis center
Full name of responsible person
Street address
Haj ebrahimi dialysis center, Sadra town, Shiraz
City
Shiraz

8

Recruitment center

Name of recruitment center
Milad Hospital
Full name of responsible person
Vahid Pourfarziani
Street address
Department of nephrology, Milad Hospital, Hemmat
Exp. Way, Tehran.
City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
CinnaGen Pharmaceutical Company
Full name of responsible person
Somayeh Amini
Street address
No.2 , 7thSt., Simaye Iran St., Shahrak Gharb, Tehran,
IRAN
City
Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

CinnaGen Pharmaceutical Company

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
Orchidpharmed company
Full name of responsible person
Dr.somayeh Amini
Position
Medical Manager, Pharm.D

Other areas of specialty/work

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Other areas of specialty/work

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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