Clinical Trial Protocol
Iranian Registry of Clinical Trials

27 Oct 2026

A Randomized parallel group clinical trial to determine the effectiveness, safety and tolerability of Actoverco Filgrastim and Actoverco Pegfilgrastim compared to Neupogen® for prevention of chemotherapy induced neutropenia in the treatment of the breast cancer

Protocol summary

Summary

A major dose-limiting toxicity of chemotherapy is neutropenia and contributes to morbidity associated with cancer. The primary purpose of this study is to establish the effectiveness of a new biosimilar of Filgrastim (Actostim) - as preventive treatment for, Chemotherapy Induced neutropenia compared with the original one (Neopogen) in breast cancer patients. Other purposes of this study are to establish the safety and tolerability of the product. Twenty four hours after chemotherapy, 140 female patients aged 18 to 70 years old who have high risk stage 2 or more of breast cancer and need chemotherapy will randomly be assigned to the study drug. For eligible patients in the first cycle, the injections of Filgrastim will be done by an educated nurse in the center with a single subcutaneous dose (0.5 MIU/kg/day), 24 hours after chemotherapy. Ensuring the patient's ability to perform injections, the labeled drugs will be given to them for the next injections at home, from the second cycle. Results of analyzing will be prepared and presented in form of middle report (upon completion 50% of the sample of the study), and final report (upon completion 100% of the sample of the study).

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013042212398N4**
Registration date: **2014-03-17, 1392/12/26**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2014-03-17, 1392/12/26

Registrant information

Name
Farhad Hatami Sadabadi
Name of organization / entity
Actover Pharmaceutical Company
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Iran (Islamic Republic of)
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Recruitment status

Recruitment complete

Funding source

Actover pharmaceutical company

Expected recruitment start date
2014-01-21, 1392/11/01
Expected recruitment end date
2015-07-23, 1394/05/01
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title

A Randomized parallel group clinical trial to determine the effectiveness, safety and tolerability of Actoverco Filgrastim and Actoverco Pegfilgrastim compared to Neupogen® for prevention of chemotherapy induced neutropenia in the treatment of the breast cancer

Public title

Determining the effectiveness, safety and tolerability of

Actoverco Filgrastim and Actoverco Pegfilgrastim compared to Neupogen in preventing the chemotherapy induced neutopenia in treatment of the breast cancer

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion Criteria: Female patients aged 18 to 70 years old; Signed informed consent obtained prior to initiation the study; Patients diagnosed having high risk stage 2 or stage 3 and or 4 of breast cancer (by histopathological or cytological diagnosis) and need chemotherapy; A priori has been decided to be treated with G-CSF and subjects eligible for G-CSF therapy according to indications and clinical use in the product monograph; Any acute adverse effects of prior therapy must have resolved to ≤ NCI CTCAE (Version 4.0) grade 1 (excluding alopecia) prior to Day 1 of Cycle 1; ECOG Performance Status 0 or 1 as determined on Day 1 of Cycle 1 prior to administration of chemotherapy; Patients must have adequate organ function including the following: a. Adequate bone marrow functions, as determined within 1 day prior to administration of chemotherapy on Day 1 of Cycle 1 and as indicated by: Hb≥10 g/dL (transfusion permitted to be included in the trial WBC≥3,5 x 109/L,Absolute neutrophil count (ANC) ≥1.5 x 109/L Platelets ≥100 x 109/L , b. Adequate renal and hepatic function, as determined within 1 day prior to administration of chemotherapy on Day 1 of Cycle 1 and as indicated by: i. Hepatic: Bilirubin ≤ 1.5 x the upper limit of normal (ULN) (unless elevation is known to be due to Gilbert's disease), Subjects must also meet one of the following criteria: ii. a) Alkaline phosphatase within normal reference range and both AST and ALT >2.5 x ULN; or b) Alkaline phosphatase <2.5 x ULN and both AST and ALT <1.5 x ULN; or c) Alkaline phosphatase <5 x ULN and both AST and ALT within normal reference range; Renal: Serum creatinine ≤ 1.5 mg/dL or ≥ 90 ml/min GFR; Patients of child-bearing potential must have a negative pregnancy test within 3 days prior to the first dose of chemotherapy (Day 1 of Cycle 1) and use at least one form of contraception as approved by the Investigator for four weeks prior to the study and during the study. For the purposes of this study, child-bearing potential is defined as: “All female patients unless they are post-menopausal for at least one year or are surgically sterile”. Acceptable methods of contraception include IUD, oral contraceptive, subdermal implant and double barrier (condom with a contraceptive sponge or contraceptive suppository); Life expectancy more than 3 months; Entering to the study before the second cycle of chemotherapy; Ability to co-operate with the treatment and follow up. Exclusion Criteria: Safety of treatment dependent criteria: Presence of any serious concomitant systemic disorders incompatible with the administration of G-CSF or any systemic disease that can influence the patient's safety (according to doctor’s diagnosis); history of hypersensitivity to natural or recombinant G-CSF, or hypersensitivity to human albumin or any other component of the formulation; History of poorly controlled hypertension (BP > 180/110 mmHg) and/or other clinically significant major disease (according to doctor’s diagnosis); Serious local infection or active systemic infection within 10 days prior to enrollment or patients who have taken antibiotics within the previous 10 days; Pregnant or breast-feeding patients; Cardiac insufficiency, cardiomyopathy, significant cardiac dysrhythmia, unstable or advanced ischemic heart disease (NYHA III or IV; Known bleeding disorder Criteria dependent on compliance with study procedures, or the evaluation of the response: Unwilling to use a reliable and acceptable contraceptive method throughout the study period (fertile patients only); Treatment with certain other agents to treat the malignant disease; Patients requiring autologous or allogeneic stem cell transplantation; Patients receiving simultaneous radiotherapy; Patients who have taken colony stimulation factor within the previous 10 days; Treatment with any investigational product within 30 days prior to study drug administration; Previous participation in this study; Having chemotherapy for any reason in the last 5 years and or receiving> 240 mg/m2 doxorubicin or > 600 mg/m2 Epirubicin at the life time; Already involved in this research project.

Age

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

Gender

Female

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)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Iran University of Medical Sciences

Street address

Next to Milad Hospital, between the intersection of Sheykh Fazl Allah Nuri and Chamran, Hemmat Highway.

City

Tehran

Postal code

1449614535

Approval date
2014-12-02, 1393/09/11
Ethics committee reference number
93-d-105-4251

Health conditions studied

1

Description of health condition studied
breast cancer
ICD-10 code
C50
ICD-10 code description
breast cancer

Primary outcomes

1

Description
Duration of Severe Neutropenia
Timepoint
The number of days that patients have severe neutropenia (defined as above)
Method of measurement
Daily Hematology During severe neutropenia

2

Description
Severe Neutropenia
Timepoint
before intervention, from day 6 to 14 after chemotherapy in first cycle
Method of measurement
Hematology

3

Description
Drug intolerance
Timepoint
14 and 21 days after intervention in each cycle
Method of measurement
Doctor`s diagnosis

4

Description
Febrile neutropenia
Timepoint
before intervention, day 7 and 14 after chemotherapy in each cycle and 30 days after the last dose of chemotherapy.
Method of measurement
Physical exam and Para clinic

5

Description
Serious adverse events
Timepoint
Whenever it happens
Method of measurement
Doctor`s observation and report

Secondary outcomes

1

Description
Fever
Timepoint
before intervention, from day 6 to 14 after chemotherapy in first cycle, day 14 after chemotherapy in second till forth cycle and 30 days after the last dose of chemotherapy.
Method of measurement
Thermometer

2

Description
Fever duration
Timepoint
Whenever a patient has fever
Method of measurement
Physical exam

3

Description
Height
Timepoint
before intervention
Method of measurement
Meter

4

Description
ANC
Timepoint
before intervention, from day 6 to 14 after chemotherapy in first cycle, day 7 and 14 after chemotherapy in second till forth cycle and 30 days after the last dose of chemotherapy.
Method of measurement
multiplied the percentage of neutrophils in the WBC count

5

Description
Ability to continue chemotherapy
Timepoint
14 days after chemotherapy in each cycle
Method of measurement
Doctor`s Report

6

Description
Weight

Timepoint
befor intervention, 14 days after chemotherapy in each cycle and 30 days after the last dose of chemotherapy.
Method of measurement
Carriage scales

7

Description
Bone pain
Timepoint
befor intervention, 14 days after chemotherapy in each cycle and 30 days after the last dose of chemotherapy
Method of measurement
According to patient's Statement

8

Description
Non-life-threatening side effects
Timepoint
14 days after chemotherapy in each cycle and 30 days after the last dose of chemotherapy
Method of measurement
Doctor`s observation and report

9

Description
Severity of bone pain
Timepoint
14 days after chemotherapy in each cycle and 30 days after the last dose of chemotherapy
Method of measurement
according to VAS criteria

10

Description
Age
Timepoint
before intervention
Method of measurement
According to birthday

11

Description
race
Timepoint
before intervention
Method of measurement
According to patient's Statement

12

Description
Laboratory abnormalities
Timepoint
Before intervention, from day 6 to 14 after chemotherapy in first cycle, day 7 and 14 after chemotherapy in second till forth cycle and 30 days after the last dose of chemotherapy.
Method of measurement
Hematology

13

Description
Hospitalization
Timepoint
Whenever needed during the study
Method of measurement
Doctor`s diagnosis

14

Description
Duration of Hospitalization
Timepoint
Duration of Hospitalization at any time patient hospitalized
Method of measurement
Review of patient records

15

Description
Infection
Timepoint
14 days after intervention in each cycle
Method of measurement
Physical exam and Paraclinic

16

Description
need for intravenous antibiotics
Timepoint
14 days after chemotherapy in each cycle
Method of measurement
Doctor`s prescription

17

Description
the injection site Pain
Timepoint
14 and 21 days after intervention in each cycle and 28 days after the end of the study
Method of measurement
According to patient's Statement

18

Description
Severity of the injection site pain
Timepoint
14 days after chemotherapy in each cycle and 30 days after the last dose of chemotherapy.
Method of measurement
according to VAS criteria

19

Description
Functional status

Timepoint
befor intervention, 14 days after chemotherapy in each cycle and 30 days after the last dose of chemotherapy.
Method of measurement
ECOG criteria

20

Description
Exit the study for any reason
Timepoint
Whenever it happens
Method of measurement
Doctor or patient's Statement

21

Description
Excluded reason
Timepoint
Whenever it happens
Method of measurement
Doctor or patient's Statement

22

Description
Dosage of chemotherapy
Timepoint
14 days after intervention in each cycle.
Method of measurement
Doctor`s prescription

23

Description
Stage of breast cancer
Timepoint
before intervention
Method of measurement
TNM criteria

24

Description
Drug
Timepoint
before intervention
Method of measurement
BBR Table

Intervention groups

1

Description
Intervention group: Twenty four hours after each cycle of chemotherapy, injections of filgrastim (0.5 mIU/kg/day until post nadir ANC recovery)or Pegfilgrastim (6 mg, single dose)will be done. Protocol of chemotherapy drugs On the first day of each cycle: On the first day of each cycle associated to AC regimen, patients receive an IV bolus of Doxorubicin (60 mg/m2 IV) in 20 min and then Cyclophosphamide (600mg/m2) in 30 minutes. AC regimen is repeated every 14 days for 4 cycles and then followed by Paclitaxel regimen. Patients receive a three-hour Paclitaxel (175 mg/m2 IV) every 14 days for 4 cycles. There is no indication for G-CSF support in cycles 5 to 8 due to lower toxicity of Paclitaxel.
Category
Treatment - Drugs

2

Description
Control group: Twenty four hours after each cycle of chemotherapy, injections of Neopogen (0.5 mIU/kg/day until post nadir ANC recovery)will be done. Protocol of chemotherapy drugs On the first day of each cycle: On the first day of each cycle associated to AC regimen, patients receive an IV bolus of Doxorubicin (60 mg/m2 IV) in 20 min and then Cyclophosphamide (600mg/m2) in 30 minutes. AC regimen is repeated every 14 days for 4 cycles and then followed by Paclitaxel regimen. Patients receive a three-hour Paclitaxel (175 mg/m2 IV) every 14 days for 4 cycles. There is no indication for G-CSF support in cycles 5 to 8 due to lower toxicity of Paclitaxel.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
FIROUZGAR Hospital
Full name of responsible person
Dr Asiyeh Ghorbani
Street address
Hematology Oncology department of FIROUZGAR hospital, before VALI-ASR Sq.
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Actoverco Pharmaceutic Company
Full name of responsible person
Dr Farhad Hatami Sadabadi
Street address
No. 17, 20 metri dasht behesht st., SA-ADAT ABAD
City
Tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source

Actoverco Pharmaceutic 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

ACTOVERCO Pharmaceutical Company

Full name of responsible person

Dr. Shirin Pournourmohammadi

Position

Clinical Trial Manager

Other areas of specialty/work

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Other areas of specialty/work

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Dr. Asiyeh Ghorbani

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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