Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

A phase III, randomized, two-armed, double-blind, multicenter, parallel, active-controlled, non-inferiority clinical trial to compare efficacy and safety of dupilumab (AryoGen Co.) versus Dupixent® (Regeneron & Sanofi Co.) in patients with moderate to severe atopic dermatitis

Protocol summary

Study aim

Assessing the non-inferiority of dupilumab (AryoGen Co.) versus Dupixent® (Regeneron & Sanofi Co.) in patients with moderate to severe atopic dermatitis

Design

Phase III, randomized, multicenter, two-armed, parallel, double-blind, active-controlled, and non-inferiority clinical trial

Settings and conduct

Study will be conducted in Tehran: Skin and Leprosy center, Razi, Hazrat Fatemeh, Loghman Hakim, Shohada-e Tajrish Hospitals. 250 Atopic dermatitis patients will be randomly assigned to dupilumab (AryoGen Pharmed) or Dupixent®. This is a double-blind study (patient, healthcare provider and analyzer)

Participants/Inclusion and exclusion criteria

Inclusion Criteria: 18-75 years; Chronic Atopic Dermatitis; EASI ≥16; BSA ≥10%; IGA ≥3; Inadequate response to treatment with topical corticosteroids; Informed consent
Exclusion Criteria: Previous dupilumab receive; Cell-depleting agents within 6 months or other biologics within 5 half-lives or 16 weeks; Phototherapy/laser therapy/tanning booth within 4 weeks; Systemic immunosuppressants/immunomodulators; Investigational agent/drug within 30 days or 5 half-lives; Live vaccination within 12 weeks; Infections requiring systemic treatment within 2 weeks, or superficial skin infections within 1 week; Hepatitis B/C,HIV; Malignancy; Major surgery; Substance abuse and other concomitant diseases based on investigator's opinion

Intervention groups

Intervention group: Dupilumab (AryoGen Co., Iran)
Control group: Dupixent® (Regeneron & Sanofi Co.)
Dupilumab 600 mg, Sub-cutaneous injection, at day 0, then 300 mg every 2 weeks

Main outcome variables

Eczema Area and Severity Index (EASI); Investigator's Global Assessment (IGA); Dermatologic Life Quality Index (DLQI); Patients' itching based on Numeric Rating Scale (NRS)

General information

Reason for update

Increase in sample size from 150 to 250

Acronym

IRCT registration information

IRCT registration number: **IRCT20150303021315N37**
Registration date: **2025-07-11, 1404/04/20**
Registration timing: **prospective**

Last update: **2026-09-10, 1405/06/19**
Update count: **2**

Registration date

2025-07-11, 1404/04/20

Registrant information

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Recruitment status

recruiting

Funding source

Expected recruitment start date

2025-11-12, 1404/08/21

Expected recruitment end date

2027-06-21, 1406/03/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A phase III, randomized, two-armed, double-blind, multicenter, parallel, active-controlled, non-inferiority clinical trial to compare efficacy and safety of dupilumab (AryoGen Co.) versus Dupixent® (Regeneron & Sanofi Co.) in patients with moderate to severe atopic dermatitis

Public title

Non-inferiority evaluation of dupilumab (AryoGen) VS. Dupixent® (Regeneron & Sanofi)

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age between 18-75 years (patients with the age of 18 and 75 will be enrolled too) Have a diagnosis of chronic Atopic Dermatitis (based on American Academy of Dermatology Consensus Criteria 2014), for at least 3 months before the screening Moderate-to-severe Atopic Dermatitis patients with an EASI ≥16 at screening and before the first administration of the study drug • Eczema Area and Severity Index (EASI) is a tool to assess the severity and extent of atopic eczema, which would be scored based on physician's diagnosis. It is scored from 0-72, where a greater number indicates of more severe disease.• If EASI score is 14 or 15 at screening, re-evaluation within 48 hours after the first assessment is possible. Have an involved BSA ≥10 percent at screening• Body Surface Area (BSA) is scored based on physician's diagnosis, which indicates the extent of disease involvement thorugh skin lesions. A greater number indicates of more severe disease. Have an IGA ≥3 at screening• Investigator's Global Assessment (IGA) is a 5-score (0-4) index which is scored based on physician's judgement to report the severity of the disease. A greater number indicates of more severe disease. History of inadequate response to treatment with topical corticosteroids• Inadequate response to treatment definition: no proper response to medium to high potency topical corticosteroids for 4 weeks or history of receiving systemic treatment for atopic dermatitis. Ability to comprehend and willingness to sign the informed consent form for this study.

Exclusion criteria:

Pregnant or nursing women, or women planning a pregnancy during the study Has previously received dupilumab Treatment with biologics as follows:- Any cell-depleting agents such as rituximab, ocrelizumab and belimumab within 6 months before the screening, Other biologics such as anti-TNFs (like adalimumab) and Interleukin-6 inhibitors (like tocilizumab) within 5 half-lives or 16 weeks prior to screening (whichever is longer) Phototherapy, laser therapy, or regular use of a tanning booth/parlor (more than 2 times per week) within 4 weeks before the screening Having used any of the following systemic immunosuppressants / immunomodulators within 4 weeks before the first administration of the study intervention: Systemic corticosteroids, Cyclosporine, Mycophenolate-mofetil, Janus kinase inhibitors, Azathioprine, Methotrexate Has received any investigational agent/drug within 30 days or passing less than 5 half-lives of the investigational agent (whichever is longer) before the first administration of the study intervention or participating in clinical studies consisting of any investigational agent or procedure. Has received, or is planning to receive, any live virus or bacterial vaccination within 12 weeks before the first administration of the study intervention. Chronic or acute infections requiring systemic treatment with antibiotics, antivirals, antiparasitics such as anthelmintics, antiprotozoals, or antifungals within 2 weeks before the first administration of the study intervention, or superficial skin infections within 1 week before the first administration of the study intervention History or diagnosis of hepatitis B, hepatitis C, or Human Immunodeficiency Virus (HIV) infection History or diagnosis of malignancy within 5 years before the screening (except treated in situ carcinoma of the cervix and resolved non-metastatic squamous or basal cell carcinoma of the skin) Has any plan of major surgical procedure during the study Substance abuse, dermatologic disease such as psoriasis or alopecia areata or any other condition (such as active major autoimmune diseases (like lupus or inflammatory bowel disease), severe renal failure (patients undergoing dialysis), moderate to severe hepatic disorders (ALT or AST more than 100 IU/L), or stage III or IV of cardiac failure according to the New York Heart Association (NYHA) classification) which, in the opinion of the investigator, will make the subject inappropriate for enrolling the study or that could limit or confound the protocol-specified assessments

Age

From **18 years** old to **75 years** old

Gender

Both

Phase

3

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size

Target sample size: **250**

Randomization (investigator's opinion)

Randomized

Randomization description

Patient allocation will be performed using R-CRAN version 4.4.0, applying block randomization (sizes 2 and 4), stratified by IGA (moderate/severe), for 250 patients

with a 1:1 ratio. The randomization list and seed will be sent to the CRO (Contract Research Organization) before the study and used under CRO supervision to assign patients to groups during the study. This process will be centrally managed, with each patient randomly allocated to a treatment group upon entry according to their stratum. Each patient will receive a code consisting of four letters (first two of first and last names), three numbers (center code), three letters (DUP), and three digits (randomization code), e.g., ABCD001DUP-001. Randomization numbers will be assigned sequentially.

Blinding (investigator's opinion)
Double blinded

Blinding description
Both interventions are non-distinguishable for patients and clinical staff.The drug containers of both dupilumab formulations will be placed in identical packaging, making them indistinguishable in appearance.

Placebo
Not used

Assignment
Parallel

Other design features
-

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Tehran University of Medical Sciences

Street address
Central Building of Tehran University of Medical Sciences, Ghods street, Keshavarz boulevard, Tehran

City
Tehran

Province
Tehran

Postal code
1417653757

Approval date
2025-06-09, 1404/03/19

Ethics committee reference number
IR.TUMS.TIPS.REC.1404.026

Health conditions studied

1

Description of health condition studied
Atopic dermatitis

ICD-10 code
L20.9

ICD-10 code description
Atopic dermatitis, unspecified

Primary outcomes

1

Description
Proportion of patients achieving EASI 75 at week 16

Timepoint
Screening/ Week 0, Week 16

Method of measurement
Physician assessment based on EASI questionnaire

Secondary outcomes

1

Description
Proportion of patients achieving EASI 90 at week 16

Timepoint
Screening/ Week 0, Week 16

Method of measurement
Physician assessment based on EASI questionnaire

2

Description
Proportion of patients achieving EASI 50 at week 16

Timepoint
Screening/ Week 0, Week 16

Method of measurement
Physician assessment based on EASI questionnaire

3

Description
The changes in patients’ itching based on NRS from week 0 to week 16

Timepoint
Week 0, Week 16

Method of measurement
NRS questionnaire

4

Description
Proportion of patients achieving IGA 0 or 1 at week 16

Timepoint
Screening, Week 16

Method of measurement
Physician assessment based on IGA questionnaire

5

Description
The changes of DLQI score from week 0 to week 16

Timepoint
Week 0, Week 16

Method of measurement
DLQI questionnaire

6

Description
Assessment of adverse events

Timepoint
During all scheduled visits
Method of measurement
Clinical monitoring

7

Description
Assessment of immunogenicity(Assessment of anti-drug antibody (ADA) development in patients.)
Timepoint
Screening, weeks 8 and 16
Method of measurement
electrochemiluminescence immunoassay

Intervention groups

1

Description
Intervention Group :Dupilumab (AryoGen Co., Iran) 300 mg/ 2mL for sub-cutaneous injectionDupilumab 600 mg, Sub-cutaneous injection, at day 0, then Dupilumab 300 mg at weeks 2, 4, 6, 8, 10, 12, and 14
Category
Treatment - Drugs

2

Description
Control group: Dupixent® (Regeneron & Sanofi Co.) 300 mg/ 2mL for sub-cutaneous injectionDupilumab 600 mg, Sub-cutaneous injection, at day 0, then Dupilumab 300 mg at weeks 2, 4, 6, 8, 10, 12, and 14
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Center for Research and Training in Skin Diseases and Leprosy
Full name of responsible person
Alireza Firooz
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2

Recruitment center
Name of recruitment center
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Full name of responsible person
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3

Recruitment center
Name of recruitment center
Hazrate Fatemeh Hospital
Full name of responsible person
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4

Recruitment center
Name of recruitment center
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5

Recruitment center

Name of recruitment center
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Full name of responsible person
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Recruitment center

Name of recruitment center
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Recruitment center

Name of recruitment center
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Recruitment center

Name of recruitment center
Sina Hospital

Full name of responsible person
mehdi Amirnia

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Name of recruitment center
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Full name of responsible person
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Recruitment center

Name of recruitment center
Dr. Ghare Aghaji Clinic

Full name of responsible person
Armaghan Ghare Aghaji Zare

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Recruitment center

Name of recruitment center

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Full name of responsible person
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Name of recruitment center
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
AryoGen Pharmed Company

Full name of responsible person
Naser Hirad

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Email
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Web page address

Grant name

Grant code / Reference number

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

Title of funding source
AryoGen Pharmed Company

Proportion provided by this source
100

Public or private sector
Private

Domestic or foreign origin
Domestic

Category of foreign source of funding
empty

Country of origin

Type of organization providing the funding
Persons

Person responsible for general inquiries

Contact

Name of organization / entity
Orchid Pharmed Co

Full name of responsible person
Hamidreza Kafi

Position
Medical Department Manager

Latest degree
Ph.D.

Other areas of specialty/work
Medical Pharmacy

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Person responsible for updating data

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Full name of responsible person
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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
Not applicable

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
Not applicable