Safety and Efficacy of Ruxolitinib Versus Best Available Therapy in Patients With Corticosteroid-refractory Acute Graft vs. Host Disease After Allogeneic Stem Cell Transplantation (REACH2)

**Brief Summary:**
To evaluate the safety and efficacy of ruxolitinib compared to Best Available Therapy in patients with corticosteroid-refractory acute graft vs. host disease after allogeneic stem cell transplantation

**Condition or disease:**
- Corticosteroid Refractory Acute Graft vs Host Disease

**Intervention/treatment:**
- Drug: Ruxolitinib
- Drug: Best Available Therapy (BAT)

**Phase:**
- Phase 3

**Sponsor:**
Novartis Pharmaceuticals

**Information provided by (Responsible Party):**
Novartis (Novartis Pharmaceuticals)
Allocation: Randomized
Intervention Model: Parallel Assignment
Masking: None (Open Label)
Primary Purpose: Treatment
Official Title: A Phase III Randomized Open-label Multi-center Study of Ruxolitinib Versus Best Available Therapy in Patients With Corticosteroid-refractory Acute Graft vs. Host Disease After Allogeneic Stem Cell Transplantation

Actual Study Start Date: March 10, 2017
Estimated Primary Completion Date: June 14, 2019
Estimated Study Completion Date: April 9, 2021

Resource links provided by the National Library of Medicine
MedlinePlus related topics: Steroids
Drug Information available for: Ruxolitinib Ruxolitinib phosphate
Genetic and Rare Diseases Information Center resources: Homologous Wasting Disease
U.S. FDA Resources

Arms and Interventions

<table>
<thead>
<tr>
<th>Arm</th>
<th>Intervention/treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Comparator: Ruxolitinib</td>
<td>Drug: Ruxolitinib</td>
</tr>
<tr>
<td>Ruxolitinib 10 mg Bis In Diem (BID)</td>
<td>Tablet for oral use</td>
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<tr>
<td></td>
<td>Other Name: INC424</td>
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<tr>
<td>Active Comparator: Best Available Therapy (BAT)</td>
<td>Drug: Best Available Therapy (BAT)</td>
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<tr>
<td>As selected by the investigator</td>
<td>Best Available Therapy</td>
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Outcome Measures

Primary Outcome Measures:

1. Overall Response Rate (ORR) [ Time Frame: 28 Days ]

   ORR is defined as the proportion of patients with a best overall response defined as complete response or partial response

Secondary Outcome Measures:

1. Durable Overall Response Rate [ Time Frame: Day 56 ]

   Proportion of all patients in each arm who achieve a complete response (CR) or partial response (PR) at Day 28 (primary endpoint) AND maintain a CR or PR at Day 56.

2. ORR [ Time Frame: Day 14 ]
3. Duration of response (DOR) [Time Frame: Up to 24 months]
   DOR is the time from first response until acute Graft versus Host Disease (aGvHD) progression or the date of additional systemic therapies for aGvHD.

4. Cumulative steroid dose [Time Frame: 56 Days]
   Weekly cumulative steroid dose for each subject up to Day 56 or end of treatment

5. Overall Survival (OS) [Time Frame: Up to 24 months]
   OS is defined as the time from the date of randomization to the date of death due to any cause.

6. Event-free survival [Time Frame: Up to 24 months]
   Event-free survival, defined as the time from the date of randomization to the date of hematologic disease relapse/progression, graft failure, or death due to any cause.

7. Failure-Free survival (FFS) [Time Frame: Up to 24 months]
   FFS is defined as the time from the date of randomization to date of hematologic disease relapse/progression, non-relapse mortality, or addition of new systemic aGvHD treatment.

8. Non Relapse Mortality (NRM) [Time Frame: Up to 24 months]
   NRM is defined as the time from date of randomization to date of death not preceded by hematologic disease relapse/progression

9. Malignancy Relapse/Progression (MR) [Time Frame: Up to 24 months]
   MR is defined as the time from date of randomization to hematologic malignancy relapse/progression. Calculated for patients with underlying hematologic malignant disease.

10. Incidence of chronic Graft versus Host Disease (cGvHD) [Time Frame: Up to 24 months]
    cGvHD, defined as the diagnosis of any cGvHD including mild, moderate, severe

11. Pharmacokinetic (PK) parameter: Plasma concentration at peak (Cmax) after single dose and at steady state of ruxolitinib in corticosteroid refractory acute GvHD patients [Time Frame: 168 Days]
    plasma concentration at peak (Cmax) Ruxolitinib after a single dose and at steady state

    exposure-efficacy relationship of ruxolitinib in terms of concentration-effect and dose-effect (effect: overall response rate at Day 28 and durable response at Day 56; Overall survival at 6 months)

13. Patient Reported Outcomes (PROs): Functional Assessment of Cancer Therapy-Bone Marrow Transplantation (FACT-BMT) [Time Frame: Baseline, Up to 30 day follow-up visit]
    Change in Functional Assessment of Cancer Therapy-Bone Marrow Transplantation (FACT-BMT) from baseline

14. Patient Reported Outcomes (PROs): EuroQol-5D-5L change [Time Frame: Baseline, Up to 30 day follow-up]
15. Pharmacokinetic (PK) parameter: Area Under the Curve (AUC) after single dose and at steady state of ruxolitinib in corticosteroid refractory acute GvHD patients [ Time Frame: 168 Days ]
   AUC from time zero to the last measurable concentration sampling time and from time zero to infinity, and Accumulation ratio (Racc). Ruxolitinib after a single dose and at steady state. AUC at end of dosing interval (AUC tau) at steady state.

16. Pharmacokinetic (PK) parameter: total body clearance of ruxolitinib from the plasma after single dose and at steady state of ruxolitinib in corticosteroid refractory acute GvHD patients [ Time Frame: 168 Days ]
   total body clearance of ruxolitinib from the plasma after a single dose and at steady state

17. Pharmacokinetic (PK) parameter: apparent volume of distribution during terminal phase after single dose and at steady state of ruxolitinib in corticosteroid refractory acute GvHD patients [ Time Frame: 168 Days ]
   apparent volume of distribution during terminal phase after a single dose and at steady state

18. Best Overall Response (BOR) [ Time Frame: up to day 28 ]
   Proportion of patients who achieved OR (CR+PR) at any time point up to and including Day 28 and before the start of additional systemic therapy for aGvHD.

   Minimum concentration (Ctough) of ruxolitinib after a single dose and at steady state in corticosteroid refractory acute GVHD patients

Eligibility Criteria

Information from the National Library of Medicine

Choosing to participate in a study is an important personal decision. Talk with your doctor and family members or friends about deciding to join a study. To learn more about this study, you or your doctor may contact the study research staff using the contacts provided below. For general information, Learn About Clinical Studies.

Ages Eligible for Study: 12 Years and older (Child, Adult, Older Adult)
Sexes Eligible for Study: All
Accepts Healthy Volunteers: No

Criteria

Inclusion Criteria:
- Have undergone Allogeneic Stem Cell Transplantation (alloSCT) from any donor source (matched unrelated donor, sibling, haplo-identical) using bone marrow, peripheral blood stem cells, or cord blood. Recipients of non-myeloablative, myeloablative, and reduced intensity conditioning are eligible.
Clinically diagnosed Grades II to IV acute GvHD as per standard criteria occurring after alloSCT requiring systemic immune suppressive therapy. Biopsy of involved organs with aGvHD is encouraged but not required for study screening.

Confirmed diagnosis of steroid refractory aGvHD defined as patients administered high-dose systemic corticosteroids (methylprednisolone 2 mg/kg/day [or equivalent prednisone dose 2.5 mg/kg/day]), given alone or combined with calcineurin inhibitors (CNI) and either:

- Progressing based on organ assessment after at least 3 days compared to organ stage at the time of initiation of high-dose systemic corticosteroid +/- CNI for the treatment of Grade II-IV aGvHD, OR
- Failure to achieve at a minimum partial response based on organ assessment after 7 days compared to organ stage at the time of initiation of high-dose systemic corticosteroid +/- CNI for the treatment of Grade II-IV aGvHD, OR
- Patients who fail corticosteroid taper defined as fulfilling either one of the following criteria:

- Requirement for an increase in the corticosteroid dose to methylprednisolone ≥2 mg/kg/day (or equivalent prednisone dose ≥2.5 mg/kg/day), OR
- Failure to taper the methylprednisolone dose to <0.5 mg/kg/day (or equivalent prednisone dose <0.6 mg/kg/day) for a minimum 7 days.

Exclusion Criteria:

- Has received more than one systemic treatment for steroid refractory aGvHD.
- Presence of an active uncontrolled infection including significant bacterial, fungal, viral or parasitic infection requiring treatment. Infections are considered controlled if appropriate therapy has been instituted and, at the time of screening, no signs of progression are present. Progression of infection is defined as hemodynamic instability attributable to sepsis, new symptoms, worsening physical signs or radiographic findings attributable to infection. Persisting fever without other signs or symptoms will not be interpreted as progressing infection.
- Evidence of uncontrolled viral infection including Cytomegalovirus (CMV), Epstein-Barr Virus (EBV), Human Herpes Virus-6 (HHV-6), Hepatitis Virus (HBV), or Hepatitis C Virus (HCV) based on assessment by the treating physician.
- Presence of relapsed primary malignancy, or who have been treated for relapse after the alloHSCT was performed, or who may require rapid immune suppression withdrawal as pre-emergent treatment of early malignancy relapse.

Other protocol-defined inclusion/exclusion criteria may apply.

Contacts and Locations

To learn more about this study, you or your doctor may contact the study research staff using the contact information provided by the sponsor.

Please refer to this study by its ClinicalTrials.gov identifier (NCT number): NCT02913261

Contacts

Contact: Novartis Pharmaceuticals +41613241111 trialandresults.registries@novartis.com
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Show 131 Study Locations
Sponsors and Collaborators
Novartis Pharmaceuticals

Investigators
Study Director: Novartis Pharmaceuticals  Novartis Pharmaceuticals

More Information

Responsible Party: Novartis Pharmaceuticals
ClinicalTrials.gov Identifier: NCT02913261  History of Changes
Other Study ID Numbers: CINC424C2301
First Posted: September 23, 2016  Key Record Dates
Last Update Posted: September 7, 2018
Last Verified: September 2018

Individual Participant Data (IPD) Sharing Statement:
Plan to Share IPD: Undecided
Plan Description: Novartis is committed to sharing with qualified external researchers, access to patient-level data and supporting clinical documents from eligible studies. These requests are reviewed and approved by an independent review panel on the basis of scientific merit. All data provided is anonymized to respect the privacy of patients who have participated in the trial in line with applicable laws and regulations.

This trial data availability is according to the criteria and process described on www.clinicalstudydatarequest.com

Studies a U.S. FDA-regulated Drug Product: No
Studies a U.S. FDA-regulated Device Product: No

Keywords provided by Novartis (Novartis Pharmaceuticals):
GvHD (Graft versus Host Disease)  corticosteroid-refractory acute graft vs. host disease
INC424  allogeneic stem cell transplantation
ruxolitinib  steroid refractory acute graft vs. host disease
best available therapy (BAT)  Janus Kinase (JAK) inhibitor

Additional relevant MeSH terms:
Graft vs Host Disease
Immune System Diseases