Phase 3 Trial of Blinatumomab vs Standard Chemotherapy in Pediatric Subjects With HR First Relapse B-precursor ALL

Purpose

B-precursor ALL is an aggressive malignant disease. Therapy is usually stratified according to risk characteristics to ensure that appropriate treatment is administered to patients with high-risk of relapse. In general, pediatric treatment regimens are more intense than those employed in adults and include courses of combination chemotherapy. Standard of care chemotherapy is associated with considerable toxicity. There is a lack of novel treatment options for subjects who relapse or are refractory to treatment. Therefore, innovative therapeutic approaches are urgently needed. Blinatumomab is a bispecific single-chain antibody construct designed to link B cells and T cells resulting in T cell activation and a cytotoxic T cell response against CD19 expressing cells. This study will evaluate the event-free survival (EFS) after treatment with blinatumomab when compared to standard of care (SOC) chemotherapy. The effect of blinatumomab on overall survival and reduction of minimal residual disease compared to SOC chemotherapy will also be investigated.

Study Type: Interventional

Condition | Intervention | Phase
---|---|---
Leukemia, Acute Lymphoblastic | Drug: Blinatumomab | Phase 3
| Drug: Conventional Consolidation Chemotherapy |

Resource links provided by NLM:

MedlinePlus related topics: Leukemia

Drug Information available for: Blinatumomab

Genetic and Rare Diseases Information Center resources: Acute Lymphoblastic Leukemia, Lymphosarcoma

U.S. FDA Resources

Further study details as provided by Amgen:

Primary Outcome Measures:

- Event-free survival [ Time Frame: 36 months ] [ Designated as safety issue: No ]
  
  Event-free survival (EFS) after blinatumomab when compared to standard of care (SOC) chemotherapy

Secondary Outcome Measures:

- Overall survival [ Time Frame: 36 months ] [ Designated as safety issue: No ]
  
  Overall survival (OS) of patients treated with blinatumomab when compared to SOC chemotherapy
• MRD response [Time Frame: 4 weeks] [Designated as safety issue: No]
  MRD response, defined as MRD level < 10^-4 at the end of treatment with investigational product(s)

• Adverse events [Time Frame: 30 days after the last dose of study treatment or 90 days after alloHSCT (whichever is longer)]
  [Designated as safety issue: Yes]
  Incidence of adverse events (both serious and non-serious), treatment-related adverse events, adverse events of interest, clinically significant changes in laboratory values

• Survival [Time Frame: 100 days following alloHSCT] [Designated as safety issue: No]
  Survival status at 100 days following alloHSCT

• Anti-blinatumomab antibody [Time Frame: 4 weeks] [Designated as safety issue: No]
  Incidence of anti-blinatumomab antibody formation (blinatumomab arm only)

• Relapse Incidence [Time Frame: 36 months] [Designated as safety issue: No]
  Cumulative incidence of relapse

• Css [Time Frame: 2 weeks] [Designated as safety issue: No]
  Population pharmacokinetic (PK) analysis (blinatumomab arm only)

Estimated Enrollment: 320
Study Start Date: November 2015
Estimated Study Completion Date: December 2021
Estimated Primary Completion Date: January 2019 (Final data collection date for primary outcome measure)

<table>
<thead>
<tr>
<th>Arms</th>
<th>Assigned Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental: Blinatumomab</td>
<td>Drug: Blinatumomab</td>
</tr>
<tr>
<td>Subjects will be randomized to receive either blinatumomab or standard consolidation chemotherapy.</td>
<td>If the patient is enrolled in the initial phase of the study, he/she will receive one cycle of blinatumomab. If the patient is enrolled in the adaptive phase of the study, the patient will receive three cycles of blinatumomab.</td>
</tr>
<tr>
<td>Active Comparator: Conventional Consolidation Chemotherapy</td>
<td>Drug: Conventional Consolidation Chemotherapy</td>
</tr>
<tr>
<td>Subjects will be randomized to receive either blinatumomab or standard consolidation chemotherapy.</td>
<td>If the patient is enrolled in the initial phase of the study, he/she will receive one block of standard consolidation chemotherapy. If the patient is enrolled in the adaptive phase of the study, the patient will receive three blocks of consolidation chemotherapy.</td>
</tr>
</tbody>
</table>

Detailed Description:
Patients enrolled in the initial phase of the study will be randomized in a 1:1 ratio to receive either one cycle of blinatumomab or one block of standard high-risk consolidation chemotherapy. Blinatumomab is administered as a continuous intravenous infusion (CIVI). One cycle of blinatumomab treatment includes 4 weeks of CIVI of blinatumomab. An interim analysis will be performed and a data monitoring committee will provide a recommendation to either continue with the original study design, or to adapt the treatment arms and randomize subsequent patients to either three cycles of blinatumomab or three blocks of high-risk consolidation chemotherapy. After completing consolidation therapy, the patients should undergo alloHSCT depending on their bone marrow status. The patients will be followed up for up to 36 months after alloHSCT.

Eligibility

Ages Eligible for Study: up to 17 Years (Child)
Genders Eligible for Study: Both
Accepts Healthy Volunteers: No

Criteria

Inclusion Criteria:

• Subjects with Philadelphia chromosome negative (Ph-) high-risk (HR) first relapse B-precursor ALL (as defined by I-BFM SG/IntReALL criteria)
• Subjects with M1 or M2 marrow at the time of randomization, - Age > 28 days and < 18 years at the time of informed consent/assent
• Subject’s legally acceptable representative has provided informed consent when the subject is legally too young to provide informed consent and the subject has provided written assent based on local regulations and/or guidelines prior to any study-specific activities/procedures being initiated
• Availability of the following material from relapse diagnosis for central analysis of MRD by PCR: clone-specific primers and reference DNA, as well as primer sequences and analyzed sequences of clonal rearrangements.

Exclusion Criteria:

• Clinically relevant CNS pathology requiring treatment (eg, unstable epilepsy)
• Evidence of current CNS (CNS 2, CNS 3) involvement by ALL
• Subjects with CNS relapse at the time of relapse are eligible if CNS is successfully treated prior to enrollment

Abnormal renal or hepatic function prior to start of treatment (day 1) as defined below: a. Serum creatinine levels above upper limit of normal, based on the normal ranges for age and gender of the local laboratories. b. Direct bilirubin > 1.5 mg/dL (for subjects with total bilirubin < 1.50 mg/dL, measurement of direct bilirubin is not required) prior to start of treatment (unless related to Gilbert's or Meulengracht disease)

Peripheral neutrophils < 500/µL prior to start of treatment

Peripheral platelets < 50,000/µL prior to start of treatment

Currently receiving treatment in another investigational device or drug study or less than 4 weeks since ending treatment on another investigational device or drug study(s), procedures required by IntReALL HR guidelines are allowed

Chemotherapy related toxicities that have not resolved to ≤ grade 2

Symptoms and/or clinical signs and/or radiological and/or sonographic signs that indicate an acute or uncontrolled chronic infection, any other concurrent disease or medical condition that could be exacerbated by the treatment or would seriously complicate compliance with the protocol

Known infection with human immunodeficiency virus (HIV)

Known hypersensitivity to immunoglobulins or any of the products or components to be administered during dosing

Post-menarchal female subject who is pregnant or breastfeeding, or is planning to become pregnant or breastfeed while receiving protocol-specified therapy and for at least 6 months after the last dose of blinatumomab or for 12 months after the last dose of chemotherapy

Post-menarchal female subject who is not willing to practice true sexual abstinence or use a highly effective form of contraception while receiving protocol-specified therapy and for at least 6 months after the last dose of blinatumomab or for 12 months after the last dose of chemotherapy

Sexually mature male subject who is not willing to practice true sexual abstinence or use a condom with spermicide while receiving protocol-specified therapy and for at least 6 months thereafter. In countries where spermicide is not available, a condom without spermicide is acceptable

Sexually mature male subject who is not willing to abstain from sperm donation while receiving protocol-specified therapy and for at least 6 months thereafter

Subject likely to not be available to complete all protocol-required study visits or procedures, including follow-up visits, and/or to comply with all required study procedures to the best of the subject's and investigator's knowledge

History or evidence of any other clinically significant disorder, condition or disease (with the exception of those outlined above) that, in the opinion of the investigator or Amgen physician, if consulted, would pose a risk to subject safety or interfere with the study evaluation, procedures, or completion

Placed into an institution due to juridical or regulatory ruling.

## Contacts and Locations

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, see Learn About Clinical Studies.

Please refer to this study by its ClinicalTrials.gov identifier: NCT02393859

### Contacts

Contact: Amgen Call Center  866-572-6436

Show 60 Study Locations

### Sponsors and Collaborators

Amgen

### Investigators

Study Director: MD Amgen

### More Information

Additional Information:

AmgenTrials clinical trials website

Responsible Party: Amgen

ClinicalTrials.gov Identifier: NCT02393859  History of Changes

Other Study ID Numbers: 20120215  2014-002476-92

Study First Received: March 16, 2015

Last Updated: September 21, 2016

Health Authority:

- Australia: Therapeutic Goods Administration
- Czech Republic: Státní ústav pro kontrolu léčiv (SÚKL)
- Poland: Office for Registration of Medicinal Products, Medical Devices and Biocidal Products
- Austria: Bundesamt für Sicherheit im Gesundheitswesen, AGES Medizinmarktaufsicht
- Belgium: Directorate-General for Medicinal Products
- Denmark: Lægemiddelstyrelsen
- Israel: Clinical Trials Department, Ministry of Health
- Sweden: Medical Products Agency (MPA)
- Switzerland: Swissmedic
- United Kingdom: Medicines and Healthcare Products Regulatory Agency

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulatory Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>Agence nationale de sécurité du médicament et des produits de santé (ANSM)</td>
</tr>
<tr>
<td>Germany</td>
<td>Paul-Ehrlich-Institut</td>
</tr>
<tr>
<td>Italy</td>
<td>Agenzia Italiana del Farmaco (AIFA)</td>
</tr>
<tr>
<td>Portugal</td>
<td>Instituto Nacional da Farmácia e do Medicamento (INFARMED)</td>
</tr>
<tr>
<td>Spain</td>
<td>Agencia Española de Medicamentos y Productos Sanitarios</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Centrale Commissie Mensgebonden Onderzoek</td>
</tr>
</tbody>
</table>

**Keywords provided by Amgen:**
- ALL
- High-risk first relapse B-precursor ALL
- Precursor Cell Lymphoblastic Leukemia
- Neoplasms

**Additional relevant MeSH terms:**
- Lymphoproliferative Disorders
- Immunoproliferative Disorders
- Antibodies, Bispecific
- Lymphatic Diseases
- Immunoproliferative Disorders
- Immune System Diseases
- Blinatumomab
- Antibodies, Bispecific
- Antineoplastic Agents
- Immunologic Factors
- Physiological Effects of Drugs

ClinicalTrials.gov processed this record on October 07, 2016