BACKGROUND

- Adults with Philadelphia chromosome-negative (Ph-) relapsed or refractory (R/R) B-precursor acute lymphoblastic leukemia (ALL) have an extremely poor prognosis.
- The incidence of adult R/R Ph (-) B-precursor ALL is 0.2 per 100,000 person-years, corresponding to 160 to 175 new patients per year in Germany [Katz 2015].
- There is no consensus on the standard of care chemotherapy regimen for adult patients with Ph- R/R B-precursor ALL.
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- There is no consensus on the standard of care chemotherapy regimen for adult patients with Ph- R/R B-precursor ALL.

OBJECTIVE

- To quantify hospitalisations and costs among adults with Ph- R/R B-precursor ALL treated with current salvage chemotherapies in Germany.

METHODS

Study design and patient selection

- Retrospective chart review of adults with Ph- R/R B-precursor ALL treated in German hospitals.
- Eligibility criteria: 18 years of age or older, hospitalised for management of at least one episode of R/R ALL; diagnosis of Ph-negative B-precursor ALL; relapsed with first remission lasting less than 12 months; relapsed after first salvage therapy; relapsed any time after haematopoietic stem cell transplant HSCT; or refractory to primary induction or salvage therapy; electronic medical record or chart available for review and data collection; not enrolled in either blinatumomab- or inotuzumab ozogamicin-related clinical trials during the study period.
- The study period was from 2003 to 2014. Patients with R/R ALL were screened from October 2013 going backwards until at least 40 eligible patients were identified.
- Patient data were collected from the index date until the patient died or was lost to follow-up, and outcomes were evaluated during pre-specified time periods (Figure 1).
- The index date was the first time the ALL patient was recorded as having HSCT, after 105 days, death, or loss to follow-up.
- The chemotherapy period was defined as the time from starting HSCT to the earliest of relapse, death, loss to follow-up, or relapse of ALL.
- Patients who received HSCT after the index date, the HSCT period was defined as the time from starting HSCT to the earliest of death, loss to follow-up, or relapse of ALL.

RESULTS

Study population

- Forty patients from 3 sites met the eligibility criteria and were included in the analyses.

Table 1. Patient Characteristics and Treatment Received During Salvage

<table>
<thead>
<tr>
<th>Age (range) at index date, years</th>
<th>N (%)</th>
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</thead>
<tbody>
<tr>
<td>Medical (SD)</td>
<td>41 (15)</td>
</tr>
<tr>
<td>Male, n (%)</td>
<td>16 (40)</td>
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<tr>
<td>Disease status at index date, n (%)</td>
<td>17 (43)</td>
</tr>
<tr>
<td>Relapsed with first remission ≤ 12 months</td>
<td>14 (35)</td>
</tr>
<tr>
<td>Relapsed after HSCT</td>
<td>9 (23)</td>
</tr>
<tr>
<td>Refractory to primary induction or salvage therapy</td>
<td>30 (75)</td>
</tr>
<tr>
<td>Status at the end of follow-up, n (%)</td>
<td>10 (25)</td>
</tr>
<tr>
<td>Death</td>
<td>9 (23)</td>
</tr>
<tr>
<td>Alive</td>
<td>39 (98)</td>
</tr>
<tr>
<td>Treatment received during salvage, n (%)</td>
<td>24 (60)</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>39 (98)</td>
</tr>
<tr>
<td>HSCT</td>
<td>24 (60)</td>
</tr>
</tbody>
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Hospitalisations and costs during the chemotherapy period

- Primary Outcome: During the chemotherapy period patients spent 63% (95% CI: 52%-73%) of their time in the hospital.

The mean (SD) number of inpatient hospitalisations per patient was 1.5 (2.2), with a mean (SD) length of stay of 25 (24) days per hospitalisation (Table 2).

The calculated total hospitalisation cost per patient during the chemotherapy period was €45,431 (Table 3).

Total hospitalisations and costs from R/R ALL diagnosis to death

- Excluding the HSCT period, there was a mean (SD) of 2.6 (4.7) inpatient hospitalisations per patient and the mean (SD) length of stay was 21 (25) days (Table 2). The calculated total hospitalisation cost per patient excluding the HSCT period was €65,322 (Table 3).

- Hospitalisations and costs were evaluated during the HSCT period for the 24 patients who received a transplant after the index date. There was a mean (SD) of 1.4 (2.2) hospitalisations with a mean (SD) length of stay of 38 (33) days. The calculated total cost per patient in the HSCT Period was €94,774.

REFERENCES