

## **Abstract: P388**

### **Title: THERAPY OF ADULT PATIENTS WITH ACUTE LYMPHOBLASTIC LEUKEMIA BASED ON PEDIATRIC-INSPIRED PROTOCOLS IN THE CZECH REPUBLIC IN 2007–2020**

#### **Abstract Type: Poster Presentation**

#### **Session Title: Acute lymphoblastic leukemia - Clinical**

#### **Background:**

Pediatric-inspired protocols with prospective monitoring of minimal residual disease (MRD) are considered the standard of intensive treatment for adults with acute lymphoblastic leukemia (ALL). They have been used in the Czech Republic since 2007.

#### **Aims:**

To evaluate treatment outcomes of adult patients with ALL treated at five hematology centers between 2007–2020 according to the GMALL 07/2003 and ALL CELL Junior 2012 protocols. The analysis is retrospective.

#### **Methods:**

Two hundred and ninety-seven patients aged 18–65 years were treated. The Ph-negative cohort consisted of 203 patients with a median age 36 years (range 18–64 years) of which 140 (69.0 %) had BCP-ALL and 63 (31.0%) T-ALL. Ninety patients (44.8%) were classified as standard risk and 104 (51.7 %) as high risk according to GMALL definitions. The Ph-positive group consisted of 94 subjects with a median age 45 years (range 19–65 years).

#### **Results:**

In the Ph-negative cohort, 189 (93.1%) patients achieved complete remission, 5 (2.4%) patients were refractory, and early mortality was 3.0%. Seventy (34.5%) patients experienced relapse in a median of 10.6 months. Survival at 3 and 5 years was 63.5% and 55.9% for overall survival (OS) and 54.5% and 49.7% for disease-free survival (DFS), respectively. Young adults under 35 years of age ( $P = 0.015$ ), patients without initial CNS infiltration ( $P = 0.016$ ), with MRD negativity before consolidation treatment ( $P < 0.001$ ), transplanted in the 1<sup>st</sup> complete remission ( $P < 0.001$ ), and subjects treated after 2012 ( $P = 0.05$ ) had significantly better overall survival. In a multivariate analysis, MRD at week 11 was the only independent factor affecting OS (HR 3.06;  $P = 0.006$ ). For DFS, baseline CNS infiltration (HR 2.08;  $P = 0.038$ ) and MRD at week 11 (HR 2.15;  $P = 0.020$ ) were significant. There was no significant difference in OS between patients who achieved MRD negativity at week 11 and were or were not transplanted (median not reached in both groups). This contrasted with the survival of patients with persistent MRD at week 11 and subsequent allogeneic stem cell transplantation (HSCT) (median OS 62.1 months) and patients with persistent MRD at week 11 without HSCT (median OS 20.1 months).

In the Ph-positive cohort, 84 (89.4%) patients achieved complete remission, 1 (1.0%) patient was refractory, early mortality was 4.3%. Twenty-six (27.7%) patients relapsed in a median of 8.6 months. Survival at 3 and 5 years was 57.2% and 52.4% for OS and 50.2% and 44.9% for DFS, respectively. Transplanted patients and patients diagnosed after 2012 had statistically better overall survival ( $P < 0.001$ ).

#### **Summary/Conclusion:**

The introduction of pediatric-inspired protocols with treatment intensification according to MRD levels resulted in a significant improvement in the survival outcomes of adult patients with ALL.

**Keywords:** Therapy, Minimal residual disease (MRD), Acute lymphoblastic leukemia