cohort based on cytogenetics and next-generation-sequencing classification, according to DTD/Ph-Like protocol. Primary study endpoint is event-free survival and secondary study endpoints are complete remission and MRD after induction, adverse event and overall survival.

**Results:** Between FEB 2016 TO JAN 2018, 29 patients with ETP-ALL were enrolled into DTD/ETP-ALL trial, a median age 22 years old (range, 14–26 years old). A total of 39 patients with Ph-like ALL has been enrolled into DTD/Ph-Like trial, a median age of 26 years old (range, 14–55 years old) and 28 patients in HDACi arm. Ph-like ALL with CRLF2 high-expression, CRLF2/EPOR/JAK2 rearrangement, JAK/STAT/IL-7R/SH2B3 mutation, will be assigned to HDACi arm. Targeted next-generation sequencing revealed ETP-ALL patients harbor high rates of mutations in factors involved in cytokine and JAK/STAT signaling pathway (62%), epigenetic regulation (52%) and hematopoietic development (35%). At the same time, we also performed NGS assessment with the same panel of Ph-like ALL patients. Of note, ETP-ALL and Ph-like ALL share the mutations involved in JAK/STAT signaling pathway (JAK1, JAK2, IL-7R) and epigenetic modification (SET2, KMT2A, EZH2, KMT2C, EP300). Chidamide was well-tolerated in ETP-ALL and Ph-like ALL patients. Fatigue, nausea, vomiting, neutropenia and thrombocytopenia are common chidamide-associated adverse events with Common Terminology Criteria for Adverse Events (CTCAE) grade I-II. Complete remission and Flow-MRD-negative rate after induction therapy for ETP-ALL and Ph-like ALL were 87% and 67%, 77% and 60%, respectively. Six patients with ETP-ALL (21%, 6/29) underwent allelic homozygous hematopoietic stem cell transplantation (allo-HSCT), and 11 patients with Ph-like (28%, 11/39) ALL received allo-HSCT. With a median follow-up of 23 months (range, 7–36 months), estimated 2-year event-free survival (EFS) of ETP-ALL and Ph-like ALL is 82%, 70%, respectively.

**Summary/Conclusion:** Our preliminary data suggest that a novel HDACi chidamide is effective and well-tolerated in adult ETP-ALL and Ph-like ALL, which deserve further extended clinical trial. (DOI: 10.2217/omd-2017-0221)

**PF182 CLINICOBIOLGIC CHARACTERISTICS AND OUTCOME OF ELDERLY FRAIL PATIENTS WITH ACUTE LYMPHOBLASTIC LEUKEMIA INCLUDED IN A SPECIFIC PROTOCOL (ALL-07FRAIL)**


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**Background:** Elderly patients with ALL are frequently excluded from clinical studies, especially if they have criteria of frailty. Treatment of these patients is considered palliative, but here are scarce studies analysing the tolerability and outcome of elderly frail patients included in specific trials.

**Aims:** Here we present the clinicobiologic characteristics and outcome of elderly frail patients with Philadelphia chromosome-negative (Ph-neg) ALL included in the ALL-07FRAIL (NCT01358201) study from the Spanish PETHEMA Group.

**Methods:** Older (55–65 yrs) and elderly (>65 yrs) patients with Ph-neg ALL with Charlson comorbidity index >3 were included in this study. Treatment schedule: pre-phase (dexamethasone [DXM] for 1 week + triple intrathecal therapy [ITT]). Induction: vincristine (VCR) 1 mg/week x 4 wks and DXM (10 mg/m2 x 28d) and ITT (d1 and d35). No consolidation, Maintenance: mercaptopurine (MP) (50 mg/m2/d) and methotrexate (MTX) (20 mg/m2/wk) for 2 years from CR, with monthly reintroductions with VCR (1 mg), DXM (40 mg/m2, d1.2) and ITT during the 1st year.

**Results:** From 2008 to 2018, 58 patients (pts) were included in the ALL-07FRAIL study. Median (SD) age 73 (7) yrs, 42 pts (72%) over 70 yrs, 38 males (66%), median WBC count 8.2 x109/L. 0.3–475), CNS involvement 3 pts (5%), B-cell precursor ALL 48/56 (86%)[pre-B (n = 12), common (n = 23), pre-B (n = 12), non-specified (n = 1)], T-ALL 8/56 (14%)[pre-T (n = 1), pro-T (n = 3), mature T (n = 1), non-specified (n = 2)]. Results of induction treatment (n = 57, 1 on treatment): early death 9 (16%), failure 17 (30%), complete remission 31 (54%). The most frequent Grade 3–4 toxicities in induction were: neutropenia 39/51 pts (77%), thrombocytopenia 30/51 (59%), infection 11/51 (22%), neurologic 4/49 (8%) and gastrointestional 2/49 (4%). Outcome of CR patients: treatment-related mortality 6 (19%), withdrawn from study 2 (6%), relapse 20 (63%), persistent CR 3 (10%). The cumulative incidence of relapse at 3-ys was 80% (median: 1.1 months [95% CI: 5.2–25.9]). With a median follow-up of 23.7 months (0.1–53.7), 4 patients are alive, with a median OS of 7.7 months (95% CI, 5.6–9.9) (Figure 1).