Results: There were 18 men and 12 women; all were adult with a male to female ratio 3:2. The median age of the patients at diagnosis was 40 years (range, 19-62).The median white blood cell (WBC) count, hemoglobin concentration and platelet count were 31x10^3/dl (range, 2-275), 7g/dl (range, 4.1-11) and 53x10^3/dl (range, 14-539), respectively. Morphological assessment showed myeloid features in 14, and undifferentiated in sixteen patients. According to the EGIL classification, there were 20 cases of myeloid+B-lymphoid leukemia (66.7%), 5 cases of myeloid+T-lymphoid (16.7%), and 5 cases of trilineage myeloid+B+T-lymphoid leukemia (16.7%). The most common phenotypic feature was the expression of CD45 antigen which was positive in 27 (93.1%) patients. Cytogenetic results were available for only 4 patients. Eight patients received ALL-tailored therapy, 14 received AML-tailored therapy while 8 were either unfit for chemotherapy or died before induction treatment. Patients that received ALL-tailored chemotherapy had a better CR achievement rate (87.5%) over the patients that received AML-tailored chemotherapy (35.7%). The 6, 12 & 24 months overall survival (OS) were 33.3%, 30.0% & 26.6% respectively. Although patients with trilineage phenotype had better OS at 6, 12 & 24 months this was not of statistical significance (Figure 1).
Summary/Conclusions: Biphenotypic acute leukemia is a poor-risk disease. Despite the progress in the treatment of acute leukemia there are no uniform criteria about whether to treat BAL patients as ALL or AML. Further prospective collaborative studies are needed to investigate proper treatment protocols for this entity.

PB1667

SALVAGE REGIMENT WITH FLAT FOR REFRACTORY AND RELAPSED AML: EXPERIENCE A SINGLE CENTRE

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Background: Outcomes in patients with acute myeloid leukemia (AML) who are primary refractory or early relapsed are dismal, and there is not one standard therapy for all patients. Allogeneic hematopoietic stem cells transplantation (HSCT) is the treatment with the highest probability of cure when is possible to reduce the leukemia burden with salvage chemotherapy regimen prior to transplantation.
Aims: In this study, we report our experience of salvage chemotherapy regimen with fludarabine 30 mg/m^2, cytarabine 2 g/m^2 and topotecan 1.5 mg/m^2 on days 1 to 4 (FLAT), for refractory or relapsed AML treated in our institution.
Methods: Analytical, observational and retrospective study. We included all patients treated with FLAT from 2008 to 2016 in our center. We studied disease status prior to salvage therapy (refractoriness to one or two previous regimens *Vs* early or late relapse), cytogenetic risk profile (favorable, intermediate or adverse), response (complete response [CR], partial response [PR] or refractory disease [RD]) and survival (overall survival [OS]).
Results: Twenty-four patients were treated with FLAT in the last eight years in our center. Median age at time of treatment was 55 years old (range 39-69). AML was the underlying condition in all individuals. Cytogenetic risk profile at diagnosis (ELN) was favorable in 2 patients, intermediate in 10 and adverse in 9 of them. It was not determinate in 3 patients. Ten patients received FLAT salvage course for primary refractory AML, 1 for secondary refractory AML, 11 for relapsed AML after chemotherapy and 2 for relapsed AML after stem cell transplant (allo-SCT). Median OS was 16 months (range 1-86), with median follow up of 41 months. OS in primary refractory AML was 20 months (1-84) and 14 months (3-86) in relapsed AML. RC rate after FLAT was 45.8% (11 patients), higher in refractory disease (7 out of 11). Treatment related mortality was 16%. After reaching CR or PR, 7 patients underwent allogeneic transplantation. In this group, OS was 23 months (2-84). Four patients did not undergo transplantation despite reaching CR because of infection complications or early relapse while unrelated donor search was activated. Four patients underwent a sequential approach with a third salvage chemotherapy and allo-SCT despite refractoriness to FLAT; two of them could reach CR with this approach.
Summary/Conclusions: FLAT is an efficient salvage regimen for refractory and relapse AML. An acceptable CR rate allowed patients to continue with allogeneic-SCT and a longer overall survival. This combination has an acceptable safety profile, even for the patients who were treated after transplant.

(12)

PB1668

KINETICS OF WT1 OVER-EXPRESSION IN ACUTE MYELOID LEUKEMIA PATIENTS WHO RECEIVED STANDARD CHEMOTHERAPY OR UNDERWENT ALLOGENEIC STEM CELL TRANSPLANTATION

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Background: Wilms' tumor 1 (WT1) gene expression is well-known pan leukemia marker which overexpressed in more than 90% of newly diagnosed acute myeloid leukemia patients. However, the clinical utility of WT1 monitoring has been somewhat controversial.
Aims: The aim of this study is to compare WT1 transcript level kinetic changes in patients with AML either received standard chemotherapy (Arm A) or underwent allogeneic stem cell transplantation (Arm B).
Methods: Peripheral blood samples collected from 26 patients diagnosed with AML at initial diagnosis. Further samples collected from 9 patient who received standard chemotherapy (Arm A) at post-induction and post-intensification time points. Further samples collected from 8 patients who underwent allogeneic stem cell transplantation (Arm B) before conditioning, at day 30 and at day 100. The remaining 9 patients were not included in the analysis due to either early death or a negative WT1 at diagnosis. Quantitative RT-PCR detection of WT1 gene transcript level using Ipsogen WT1 profile Quant was performed on peripheral blood samples in both arms at the different time points mentioned before.
Results: We observed significant difference in the median values of WT1 transcript level at the 3 time points for patients with Arm A (P value 0.011) while for allogeneic arm B the median values were nearly the same at the 3 time points (P value 0.687). We found that WT1 level post-induction correlates with morphologic response (P value: 0.04). The median values for WT1 level were more for relapsed rather than non-relapsed cases in both arms at the 3 time points, but this difference was statistically insignificant except at D100 in arm B (P-value 0.046) and about to be significant at post-intensification (P value was 0.064) in arm A (Figure 1).

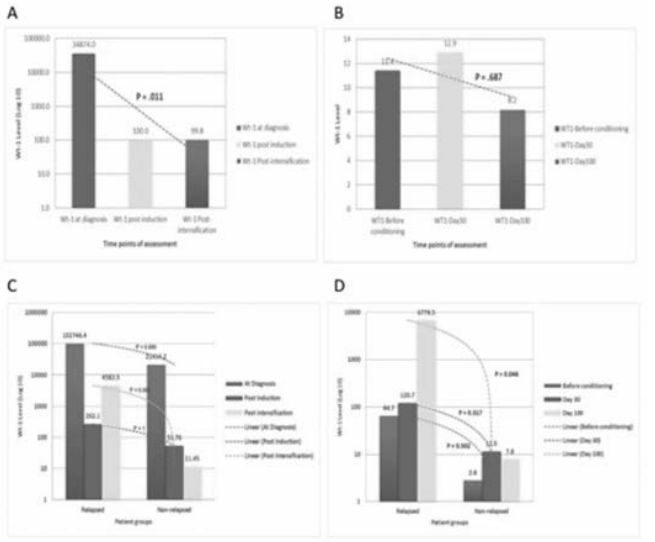

Figure 1. WT1 kinetics. A: WT1 kinetics for arm A. B: WT1 kinetics for arm B. C: WT1 transcript level between relapsed and non-relapsed case in arm A. D: WT1 transcript level between relapsed and non-relapsed case in arm B.

Summary/Conclusions: We identified a positive correlation between WT1 transcript level and morphological response. Therefore, elevation or rising WT1 transcript levels after intensifications or beyond day 100 post-transplant may be a marker of impending relapse that if validated in larger studies, may warrant either close observation or pre-emptive intervention. Although our results are poorly reaching the level of significance, probably due to the small sample size, WT1 transcript level showed dynamic changes with treatment and may be a marker for relapse. We recommend further studies with larger number of patients in different centers to confirm these results.

PB1669

STANDARD INDUCTION CHEMOTHERAPY IN CHILDREN WITH MLL-AF9 ACUTE MYELOID LEUKEMIA AND SEVERE DISSEMINATED INTRAVASCULAR COAGULATION IS ASSOCIATED WITH HIGH MORTALITY

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Background: MLL-AF9 AML is a rare subgroup of unfavorable prognostic leukemia secondary to t(9;11)(p22;q23) with particular clinical aspects, mainly severe coagulopathy.
Aims: To analyze the clinical, hematological and coagulation parameters at diagnosis and correlation with the outcome after chemotherapy initiation in children with MLL-AF9 leukemia treated according to a BFM 2004 AML protocol in a single center.