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PB1758 TWENTY-ONE YEARS' EXPERIENCE OF THE EORTC 58951 PROTOCOL FOR THE TREATMENT OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA IN THE SOUTH OF TUNISIA

Topic: 02. Acute lymphoblastic leukemia - Clinical

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Background:

Childhood acute lymphoblastic leukemia (ALL) is a hematologic malignancy with high rate of cure.

Aims: We report the experience of the clinical hematology department of Sfax-Tunisia for the treatment of childhood ALL with the EORTC 58951 protocol.

Methods:

From January 2000 to December 2020, we retrospectively studied the outcome of childhood ALL aged less 16 years, treated with the EORTC 58951 pediatric protocol. For those patients we studied the leukemia characteristics (sex ratio, white blood cell counts WBC, blast's phenotype, cytogenetic abnormalities) and response to treatment: response to prophase, remission rate, risk group stratification, treatment related mortality (TRM) (induction and post induction death) and survival (overall survival OS and event free survival.

Results:

From January 2000 to December 2020, 284 children were treated with the EORTC 58951 protocol. Medium age was 7 years (range: 1 to 15 years). Sex ratio M/F was 1.53. WBC counts more than 100 G/L were observed respectively in 41, 44 and 15% of cases. The blast's phenotype was B in 70%. Cytogenetic abnormalities were noted in 37% of cases. A good response to prophase was noted in 80% and complete remission in 92% of cases. The EORTC risk group stratification was Low Risk (LR) in 5%, Average Risk1 (AR1) in 39%, Average Risk2 (AR2) in 25% and Very High Risk (VHR) in 31%. TRM was 10%: induction rate death was 6% and post-induction rate death was 4%. Twenty-eight patients from VHR group with sibling familial donor underwent allograft. The relapse rate was 29% of all patients in remission; 4% for LR group, 39% for AR1 group, 18% for AR2 group and 39% for VHR group. At a follow up of 126 months, OS and EFS at 10 years were respectively 61% and 56%.

Summary/Conclusion:

At diagnosis, childhood ALL in our study had poor characteristics particularly higher rate of T phenotype of blasts, higher rate of leukocytosis more than 100 G/L, higher rate of VHR therapeutic group and higher rate of cortico-resistant regarding occidental series. Despite the acceptable results concerning remission rate but survival rates remain lower than those observed in the literature, this is explained mainly by the high rate of relapse (29% vs ~15%). It can be improved our results by detecting high risk patient with MRD study especially for AR1 risk group and doing allograft for VHR patients.