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732.Allogeneic Transplantation: Disease Response and Comparative Treatment Studies

Practice Patterns of Transplant Centers Regarding Maintenance Treatment Post Allogeneic Hematopoietic Cell Transplantation in Acute Myeloid Leukemia: A Survey on Behalf of the EBMT Acute Leukemia Working Party

Iman Abou Dalle MD [1], Myriam Labopin [2 3], Irma Khvedelidze [4], Frederic Baron MD PhD [5], Eolia Brissot [6 7], Gesine Bug MD [8], Jordi Esteve MD PhD [9], Sebastian Giebel [10], Norbert Claude Gorin [11], Francesco Lanza MD [12], Arnon Nagler MD [13], Zina Peric MD PhD [14], Simona Piemontese [15], Annalisa Ruggeri MD PhD [16], Jaime Sanz MD PhD [17], Bipin N. Savani MD [18], Christoph Schmid MD [19], Roni Shouval MD PhD [20], Alexandros Spyridonidis [21], Jurjen Versluis MD PhD [22]...Mohamad Mohty MDPhD [25]

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Introduction: Disease recurrence in acute myeloid leukemia (AML) remains the major reason of allogeneic hematopoietic cell transplantation (allo-HCT) failure. Strategies to reduce the risk of relapse such as prophylactic pharmacologic interventions post allo-HCT are more frequently applied by some transplant physicians, especially after the growing evidence of its efficacy and tolerability. Others are still being skeptical regarding its implementation due to difficulty proving efficacy by large randomized trials, or concerns of long-term toxicities. The aim of this study was to conduct a survey among the European Society for Blood and Marrow Transplantation (EBMT)-affiliated transplant centers to

identify clinical practice patterns regarding maintenance treatment post-allo-HCT in AML.

Methods: After the approval of the board of the Acute Leukemia Working Party (ALWP), EBMT-affiliated centers received by email a questionnaire-based survey between January and June 2023. The questionnaire consisted of 13 questions assessing clinical practices regarding maintenance treatment post allo-HCT in AML, specifically the indications of maintenance, the type, the drug used, and the duration of the treatment.

Results: A total of 115 (out of 424) EBMT-affiliated centers from 31 countries responded to the survey with a response rate of 27.12%. Overall, 102 (88.8%) centers implement maintenance strategy whether pharmacological intervention or cellular therapy post allo-HCT in AML, most of the centers (N=67, 58.3%) use it based on a personalized decision, 17 (14.8%) use it routinely, and 18 (15.7%) use it exceptionally. Regarding the indication, the majority of the centers recommend maintenance treatment for AML patients in second remission or beyond (N=64, 62.7%) or in AML patients in first remission with high risk of relapse based on cytogenetic or molecular data (N=61, 59.8%), whereas 34 (33.3%) centers recommend it only for *FLT3*-mutant disease, and 11 (10.8%) centers in all patients regardless of the risk of disease. The majority of centers (N=77, 75.5%) use a combination of pharmacologic and cellular therapies, and 20 (19.6%) centers use only pharmacologic therapies.

Among centers using pharmacologic therapies, 62 (63.9%) use hypomethylating agents (HMA) (azacitidine N=51 (82.3%), decitabine N=6 (9.6%), HMA with venetoclax N=23 (37%), HMA with donor lymphocyte infusion (DLI) N=38 (61%), or a combination of modalities in 42 (67.7%)). In general, most centers (N=35; 87.5%) do it pre-emptively either minimal residual disease (MRD) driven or chimerism driven, whereas 22 (55%) centers do it prophylactically. The majority of centers continue HMA for one-year duration (N=37, 59.7%), 15 (24.2%) for two years and only 10 (16.1%) continue until disease recurrence or toxicity.

Out of 97 responding centers regarding the use of *FLT3* inhibitors as maintenance, 93 (95.9%) are implementing this strategy. The most common choice was sorafenib in 82/93 (88.2%) centers, midostaurin in 28 (30%), and gilteritinib in 30 (32.2%). Among these, 56 (83.5%) centers use *FLT3* inhibitors as prophylaxis whereas 28 (41.7%) use a pre-emptive approach. The preferred maintenance duration was for two years in 51 (54.8%) centers, followed by one-year duration in 30 (32.3%) centers, continuous until disease relapse or toxicity in 9 (9.7%) centers, and for five years in only 3 (3.2%) centers.

Novel agents are used in 71 (70.2%) centers as maintenance either alone or in combination with HMA, of them 52 (73.2%) use venetoclax, and 13 (13.2%) use enasidenib.

Finally, regarding practice patterns, 32 (29.6%) centers claim that maintenance treatment is part of their routine practice, 46 (42.6%) only for *FLT3* mutant AML. Others are not routinely implementing maintenance because they are still skeptical and need more evidence by randomized clinical trials (N=8), whereas 5 centers are concerned regarding tolerability, and 16 (14.8%) cannot implement because of regulatory restrictions or lack of access.

Conclusion: In this survey, the majority of responding EBMT-affiliated transplant centers is implementing post-transplant AML maintenance treatment, predominantly HMA and *FLT3* inhibitors. Further studies are needed to clarify the appropriate strategy and duration of maintenance therapy. The study will help the EBMT to incorporate post-transplant strategies as a routine registry capture parameter.

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