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VENETOCLAX-BASED PRECONDITIONING FOLLOWED BY IMMEDIATE ALLOGENEIC STEM CELL TRANSPLANTATION FOR RELAPSED OR REFRACTORY ACUTE MYELOID LEUKEMIA OR HIGH-RISK MYELODYSPLASTIC SYNDROMES

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INTRODUCTION

The **optimal induction strategy and timing** for **allogeneic stem cell transplantation** (alloSCT) in cases of relapsed or refractory acute myeloid leukemia (R/R AML) or high-risk myelodysplastic syndromes (HR-MDS) have yet to be clearly determined. Recent data suggests that achieving remission prior to alloSCT may not be necessary for outcome improvement[1].

AIM

To evaluate the efficacy and toxicity of R/R AML or HR-MDS treatment using low-intensity **venetoclax-based** regimens for **preconditioning**, followed by **conventional conditioning** and **alloSCT**.

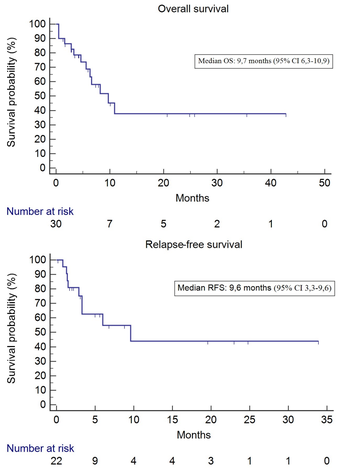
METHOD

- **Retrospective single-center study** during 2019-2024 in tertiary academic center.
- Included all ≥18 year-old patients with R/R AML or HR-MDS who received venetoclax-based preconditioning therapies and sequentially proceeded to conventional alloSCT.
- Baseline patient characteristics, AML/MDS genomics, preconditioning and conditioning regimens collected.
- **Efficacy analysis**: CR+CRp, MLFS, RD, MRD negativity (MFC <0.1%) rates after preconditioning and alloSCT, OS, and RFS.
- **Safety analysis**: Day 60 mortality, grade 3-4 acute GvHD, and grade ≥2 AEs reported using CTCAE v5.0.

RESULTS

BASELINE CHARACTERISTICS (n = 30)	
Men/Women, median age (range)	18/12, 57.5 (21-72)
Median ECOG (range)	1 (0-2)
Diagnosis: - AML - HD-MDS	 - 23 (76.7%) - 7 (23.3%)
Median **prior lines of therapy** (range)	1.5 (1-7)
Previous: - **Venetoclax exposure** - **AlloSCT**	 - 18 (60%) - 7 (23.3%)
TP53m, poor-risk cytogenetics	11 (36.7%), 14 (46.7%)
ELN2022 **adverse risk**	25 (83.3%)

INTERVENTIONS, EFFICACY AND SAFETY	
Preconditioning:	
- Actinomycin D + LDAraC + Ven (ACTIVE)	- 8 (26.7%)
- Decitabine + ACTIVE	- 15 (50%)
- Ven ± Decitabine ± LDAraC	- 6 (20%)
- Additional agents	- 18 (60%)
Conditioning and donor:	
- MAC/RIC	- 4/26 (13.3%/86.7%)
- HLA-matched	- 13 (43.3%)
- Haploidentical/mismatched	- 17 (56.7%)
Efficacy:	
- MLFS after preconditioning	- 24 (80%)
- CR+CRp after alloSCT	- 23 (88%)
- MRD-negativity after alloSCT	- 19/21 (90%)
Safety:	
- Day 60 mortality	- 4 (13.3%)
- Bilirubin grade ≥2, SOS grade 4	- 11 (36.7%), 2 (6.7%)
- Diarrhea grade ≥3, oral mucositis grade ≥3	- 14 (46.7%), 11 (36.7%)
- Infection grade ≥3	- 25 (83.3%)
- Acute GvHD grade ≥3	- 4 (13.3%)



CONCLUSIONS

In patients with poor-prognosis AML and HR-MDS, **preconditioning** with venetoclax-based regimens followed by **immediate alloSCT achieves promising outcomes**, yet poses **significant toxicities**.

REFERENCES

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