MYLOTARG
Real-world Evidence

Favourable Outcomes in Newly Diagnosed Paediatric AML with Gemtuzumab Ozogamicin and Risk-Stratified Therapy: Results from the International Phase III Myechild01 Trial

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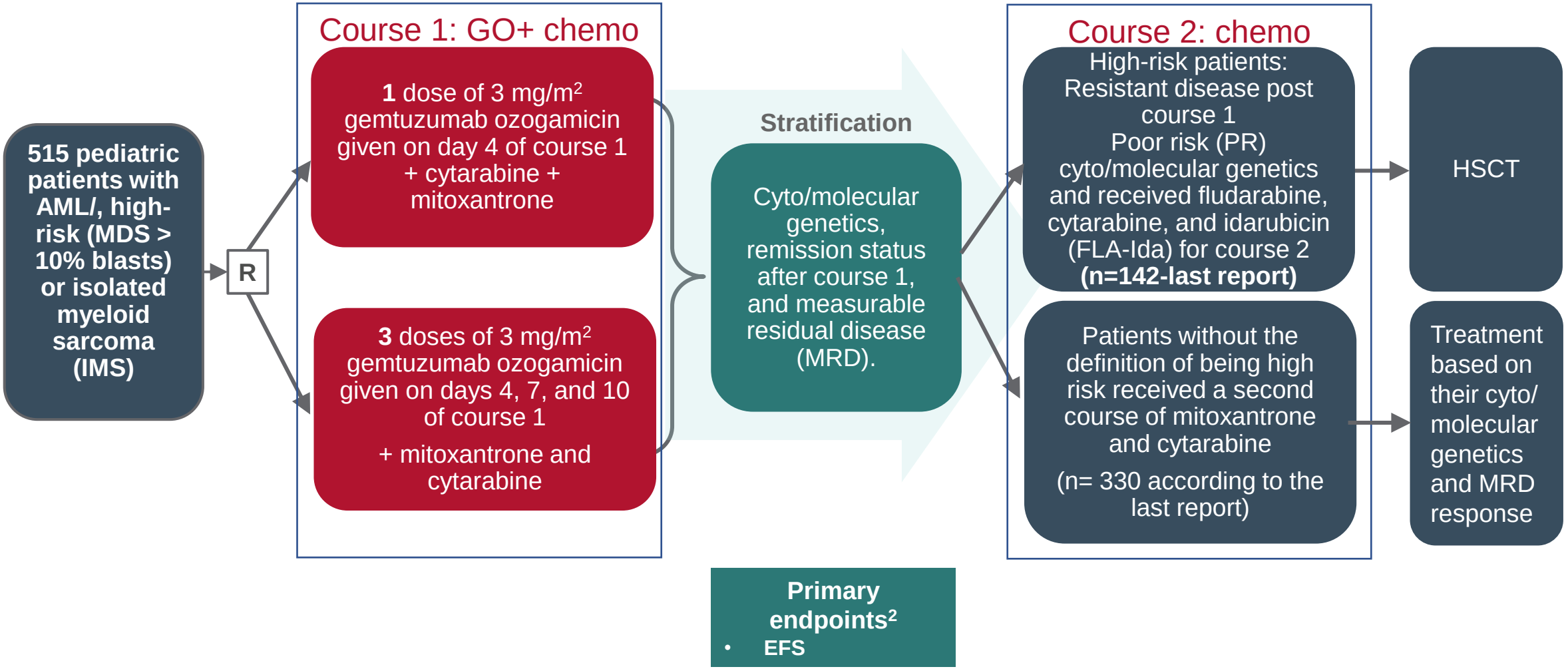
Introduction

- Adding one dose of 3mg/m^2 of Gemtuzumab ozogamicin(GO), an anti-CD33 antibody-drug conjugate, showed an event-free survival (EFS) benefit in children with acute myeloid leukaemia (AML) in the AAML0531 trial (Gamis et al, JCO, 2014), whilst the adult ALFA-0701 trial reported a survival benefit of 3 fractionated doses with standard induction (Castaigne et al, Lancet, 2012).

- MyeChild 01, an international trial (UK, France, Australia, New Zealand, Ireland, Switzerland) for paediatric AML, high risk myelodysplastic syndrome (MDS > 10% blasts) or isolated myeloid sarcoma (IMS), embedded a GO dose finding study which established the safety of combining up to 3 doses of 3mg/m^2 with intensive induction chemotherapy.

Gibson B et al. *Blood* 144 (2024) 968–970.

MyeChild01: Study Design



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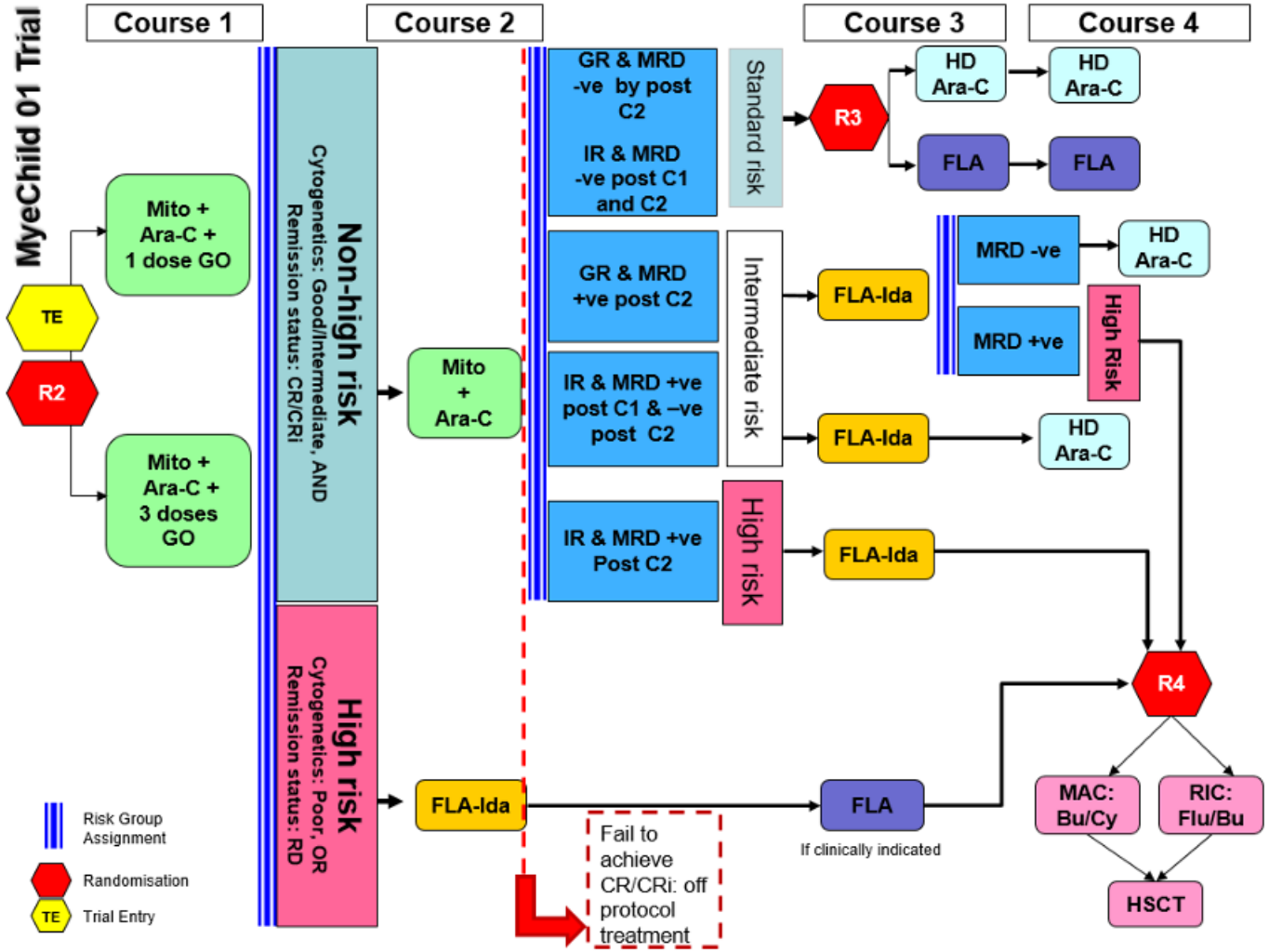
Trial schema for patients >12 months receiving gemtuzumab ozogamicin as part of R2



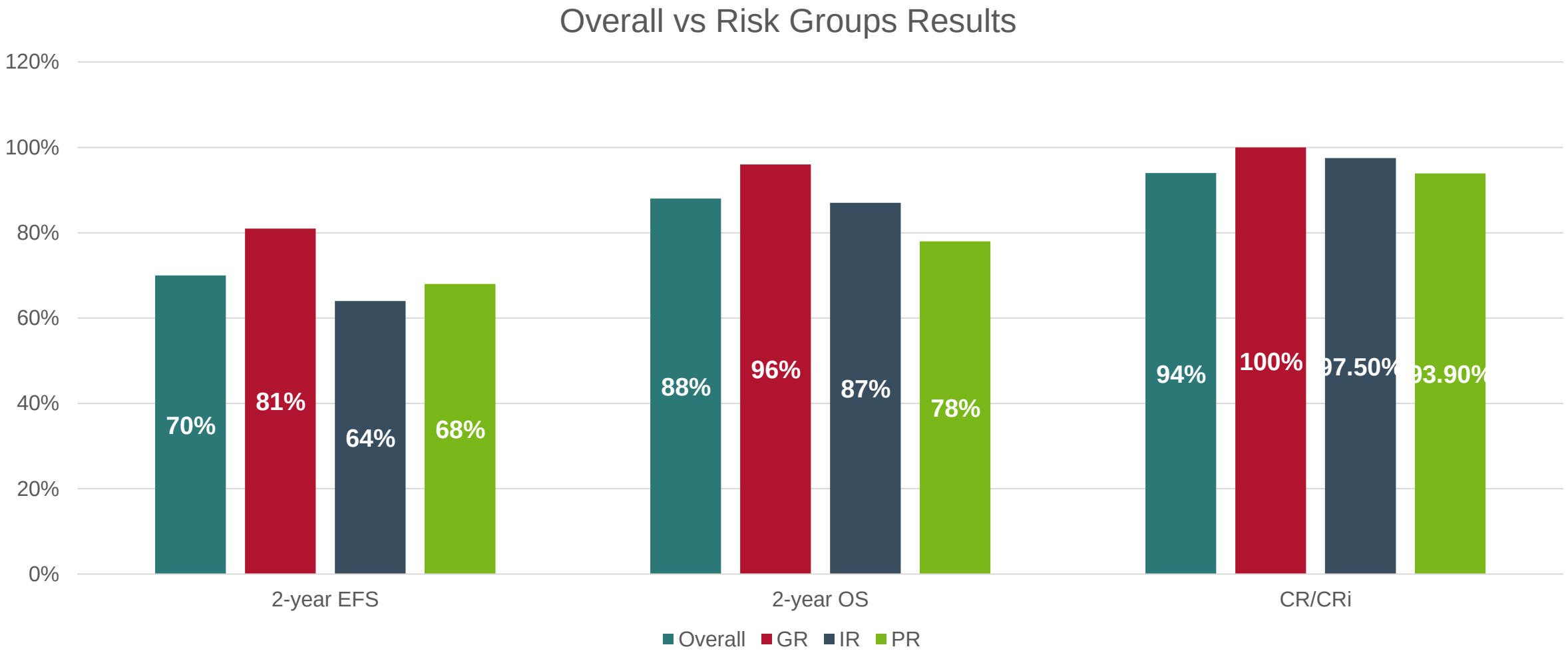
Ara-C: Cytarabine, Bu/Cy: Busulfan & cyclophosphamide, CR: Complete remission, CRi: Complete remission with incomplete blood count recovery, FLA: Fludarabine & cytarabine, FLA-Ida: Fludarabine, cytarabine & idarubicin, Flu/Bu: Fludarabine & busulfan, GO: Gemtuzumab ozogamicin, GR: Good risk cytogenetics/molecular genetics, HD-Ara-C: High dose cytarabine, HSCT: Haemopoietic stem cell transplant, IR: Intermediate risk cytogenetics, MAC: Myeloablative conditioning, Mito: Mitoxantrone, MRD: Minimal Residual Disease, TE: Trial Entry, R2: Randomisation 2, R3: Randomisation 3: Consolidation randomization, R4: Randomisation 4: Haemopoietic stem cell transplant conditioning randomization, RIC: Reduced intensity conditioning, RD: Resistant disease

MyeChild01: Baseline Characteristics

Characteristic	Percentage (%)
Male	55%
Median age (yr)	10
Median WCC	14 x10^9/L
Initial diagnosis AML MDS Isolated MS	 96% 2.5% 1.9%
De novo/secondary disease De novo Secondary	 98% 2%
Extramedullary disease CNS2 CNS3 Non-CNS extramedullary disease	 16% 9% 16%
Cyto/molecular risk results available ,n Good risk Intermediate risk Poor risk	485 192 (40%) 162 (33%) 131 (27%)

- Of 515 patients randomised to 1 vs 3 doses, all but 16 received GO (6 ineligible, 5 prior toxicity, 5 other).
- 179 patients (35%) had a confirmed HSCT.
- Median follow-up is 3 years.

MyeChild01: Efficacy Outcomes



Response to Treatment

Response to Treatment	Percentage
Complete remission (CR) or complete remission with incomplete hematologic recovery (CRi) post course 1 or 2	94%
Failed to achieve CR/CRi (resistant disease)	2.5%
Non-evaluable	1%
Unknown response	2.3%

Long-term Outcomes	
Cumulative incidence of relapse	25% (127/485)
Total death events Disease-related death Transplant-related death Off-trial treatment-related death Non-cancer death	79 63 12 3 1
Death in first remission	2% (11)

Summary of MyeChild 01 Trial Oral Presentation at the ASH Annual Meeting 2024

- ✓ Previous research has suggested that a single dose of gemtuzumab ozogamicin 3 mg/m^2 may improve event-free survival (EFS) among pediatric patients with AML. There has, however, been mixed evidence about the most effective dosage regimen of this therapy. This study compares the outcomes for 1 vs 3 doses of GO.
- ✓ At a median follow-up of 3 years, 35% of patients had had a confirmed stem cell transplantation.
- ✓ At least 1 grade 3 or worse adverse event or serious adverse event was noted in 59% of patients. A total of 9 (1.7%) patients had grade 3 or worse hyperbilirubinemia; 2 cases of veno-occlusive disease were noted.

- ✓ **An EFS analysis showed, finally, that patients who received 3 doses may have improved outcomes compared with patients who received 1 dose (adjusted hazard ratio, 0.74; *P* =.0496).**

- ✓ At least one dose of [gemtuzumab ozogamicin] in combination with mitoxantrone and cytarabine in induction followed by risk-adapted therapy has produced excellent results, the study authors wrote in their presentation.

A Report on MYLOTARG Iranian Pediatric Patients Outcome

Acknowledgement (in alphabetical order):

We would like to thank the **participating physicians** for providing patient data:

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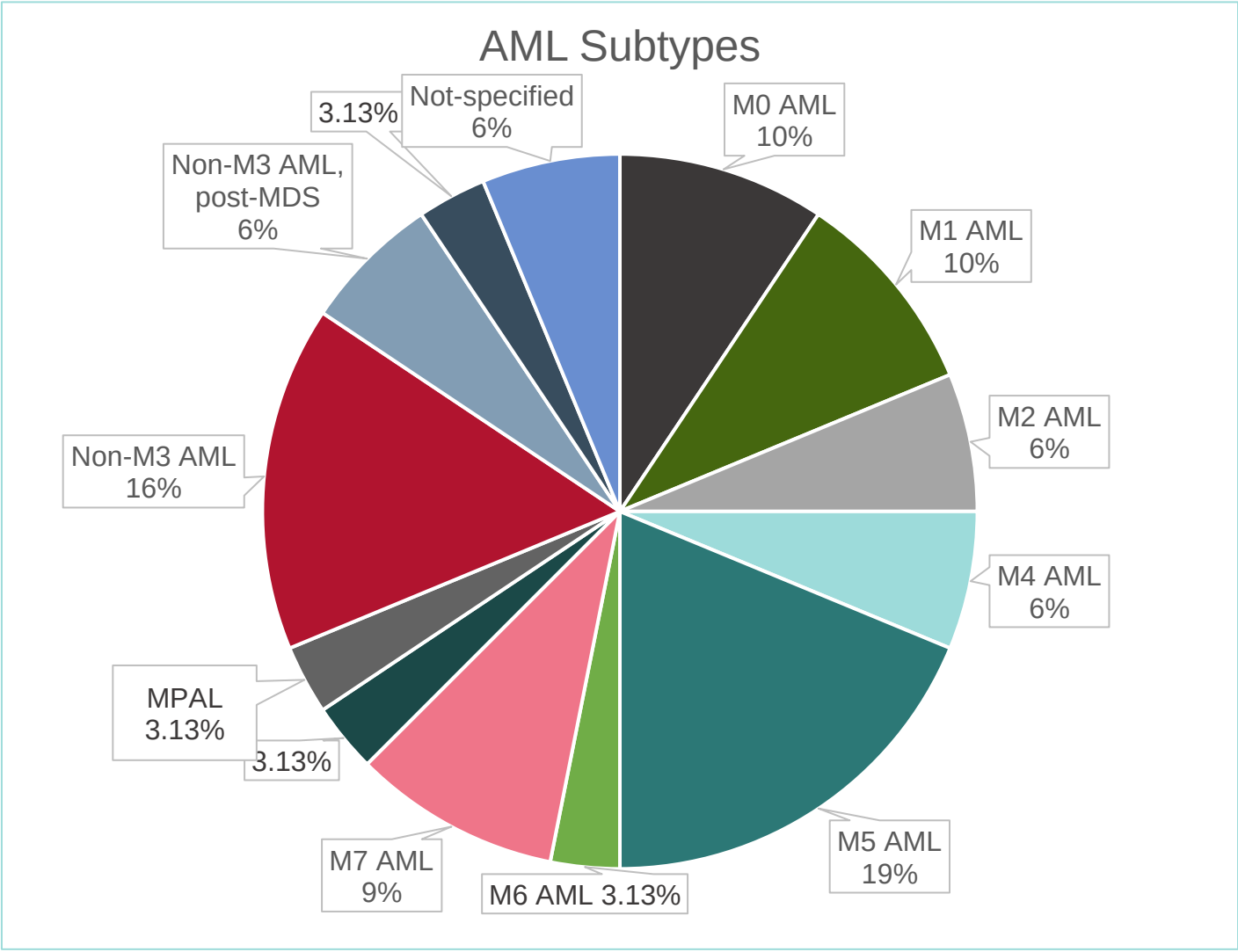
Baseline Characteristics

Characteristic	Number
Median age, year	11 (1-18)
Gender	
Female	14
Male	16
Not-specified	3
Setting	
Newly diagnosed	18
Refractory	4
Relapsed	10
Second relapse	3
≥ 2nd relapse	3
≥ 2nd relapse & post- HSCT	4

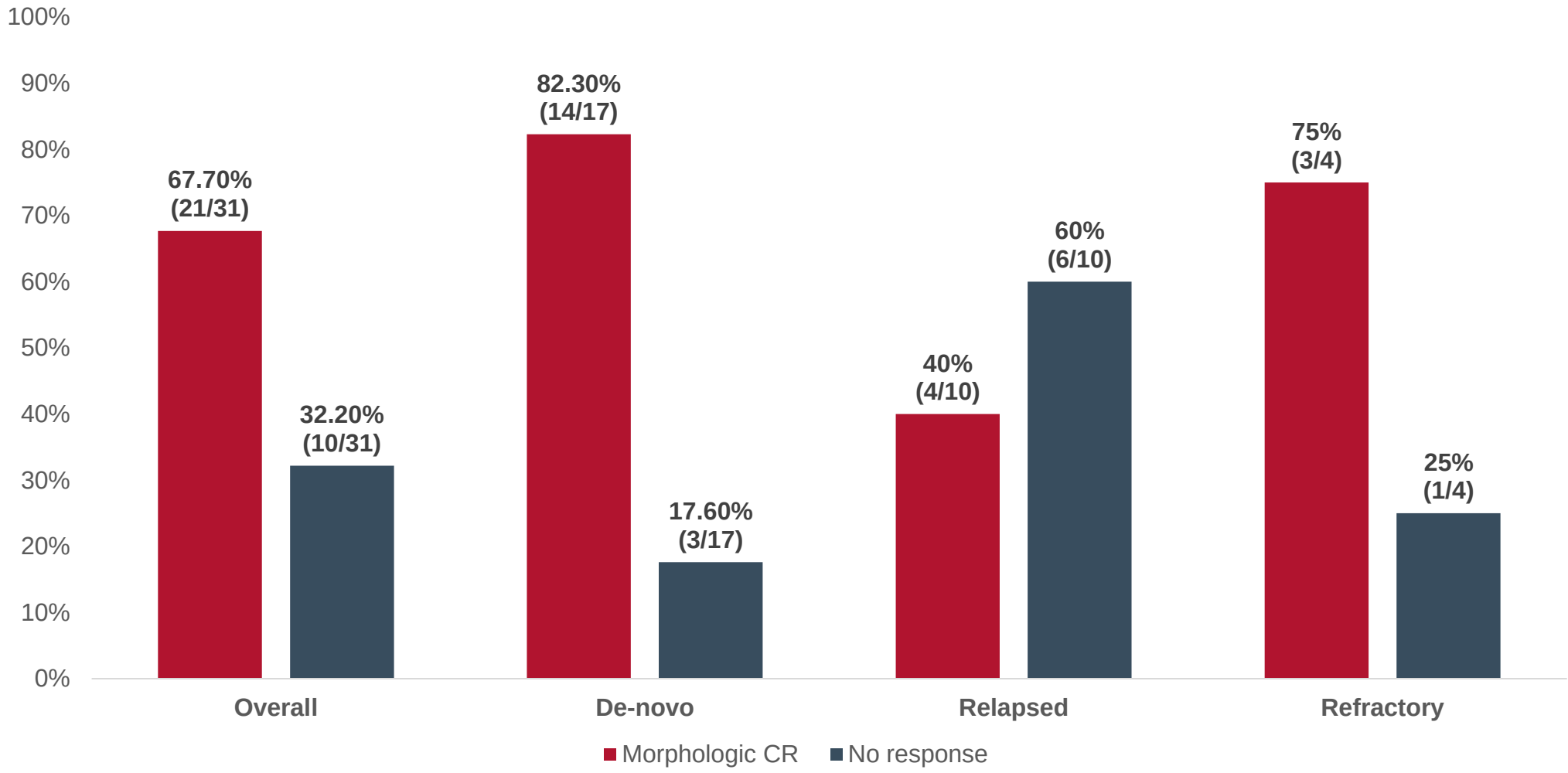


Combination Regimens

- All de novo patients but one who received azacytidine in combination with MYLOTARG were administered GO in combination with MRC

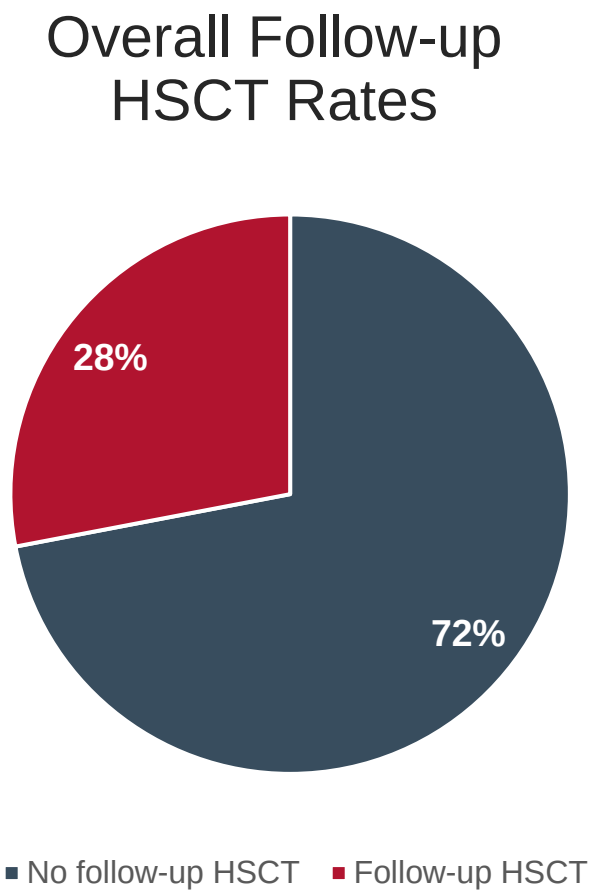
- Several chemotherapy regimens were used in the relapsed/refractory setting: FLAG (3 patients), FLAG-IDA (3 patients), MRC (2 patients), BFM (2 patients), DA (2 patients), Venetoclax + azacytidine ± MRC (2 patients)

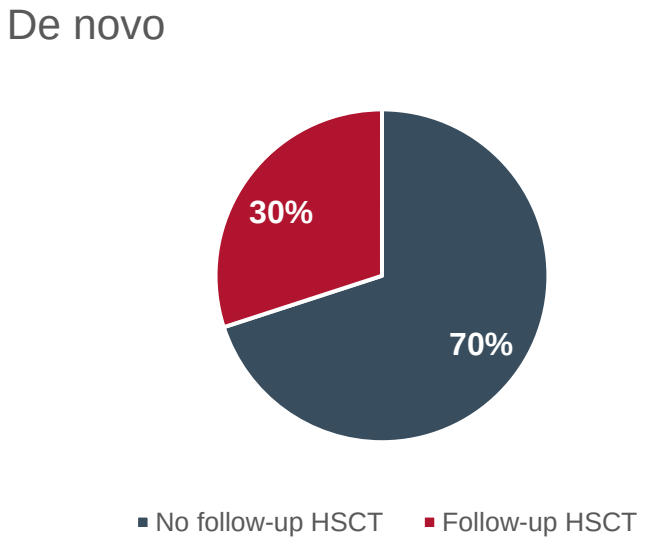
Results- Response to Treatment (31 patients)*

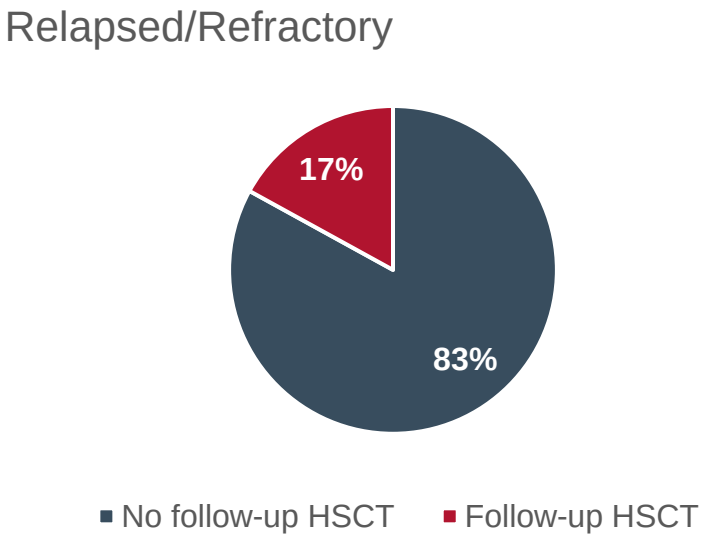


*1 patient's data was not reported

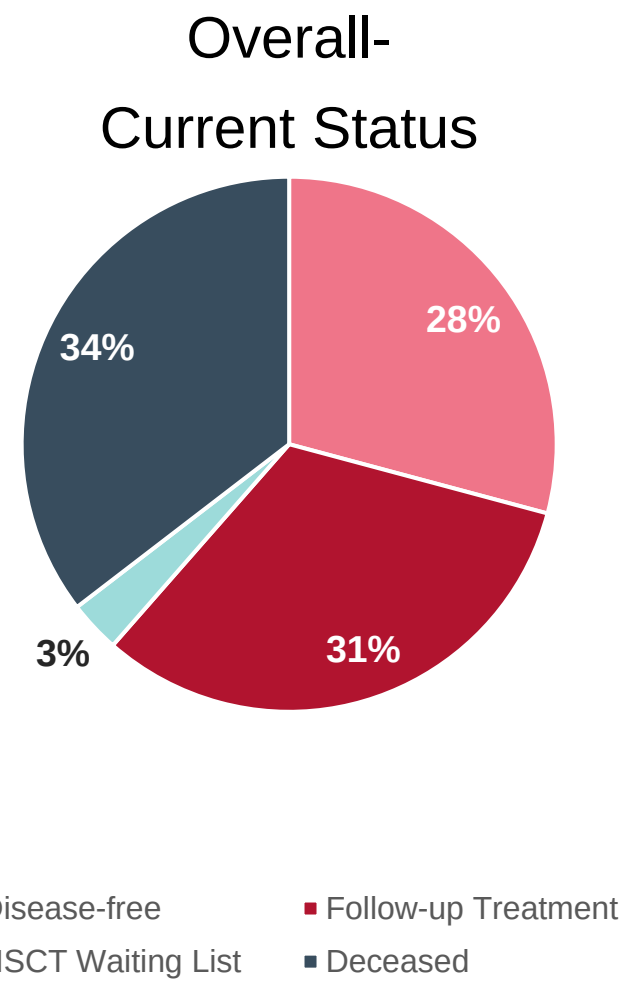
Follow-up HSCT Rates

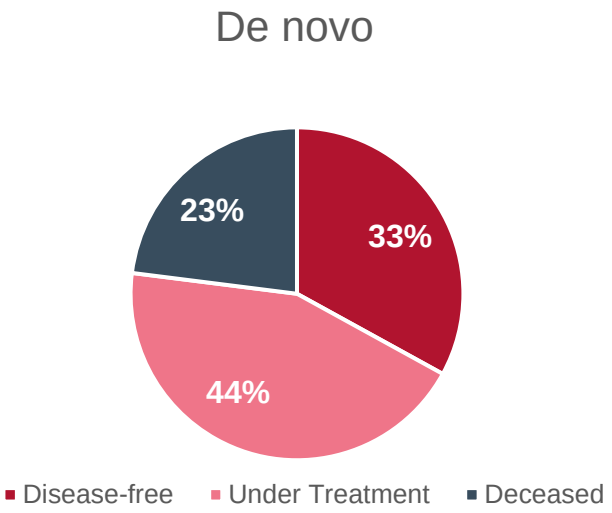


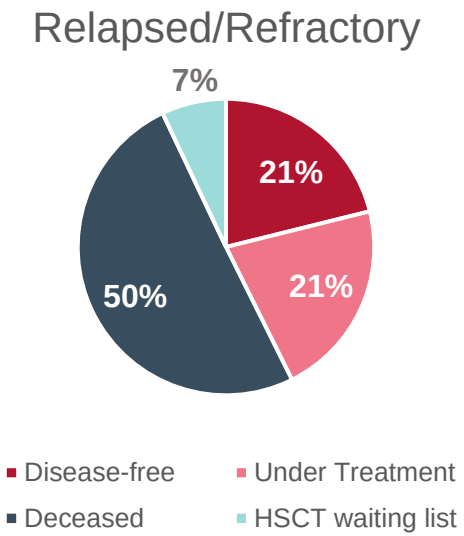




Current Status







Serious Adverse Events

- 18 patients experienced prolonged neutropenia and infection, including serious cases of sepsis, 6 led to patients death.

- No cases of VOD reported
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- 4 patients had increased LFT which resolved with dose interruption

- No serious adverse events were reported in 10 patients

THANK YOU