Day 1, 3, 5 vs Day 1, 2, 3 intermediate to high-dose cytarabine for acute myeloid leukemia consolidation therapy in patients 60 years of age or greater

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Introduction

- Intermediate (iDAC) to high-dose cytarabine (HiDAC), consisting of 6 doses given on days 1, 3, and 5 (standard), is a common intensive consolidation therapy used for patients with acute myeloid leukemia (AML)[1,2]
- 2017 Jaramillo study investigated a condensed regimen of HiDAC with doses on days 1, 2, and 3 (condensed) for patients ≤ age 60
  - Condensed HiDAC regimen had:
    - a shorter time to hematologic recovery
    - lower rates of infection
    - shorter hospitalized stay
    - no change in survival compared to the standard regimen[3]
- Jaramillo study prompted recent practice change with AML consolidation from standard iDAC/HiDAC to condensed regimen regardless of age

Objective

- Compare difference in hematologic recovery between standard & condensed iDAC/HiDAC consolidation for AML patients ≥ age 60

Methods

- **Design:** single-center, retrospective chart review

Inclusion Criteria

- Adult patients ≥ age 60 with a diagnosis of AML
- Received HiDAC (3 g/m^2) to iDAC (500 - 2500 mg/m^2) cytarabine
- Admission between January 1, 2020 and September 1,2023
- Received pegfilgrastim after chemotherapy

- **Primary outcome:** time to hematologic recovery (defined as a white blood cell (WBC) >1.0 x10^3/uL, absolute neutrophil count (ANC) > 500x10^3/uL, and platelets >50x10^3/uL)
- **Secondary outcomes:** differences in pegfilgrastim administration practices, length of stay, efficacy, and incidence of febrile neutropenia between the two groups

Results

Table 1. Baseline Characteristics (n = 58)

	Condensed (n = 27)	Standard (n = 31)	P-value
Mean age (Standard Deviation)	65.7 (±3.31)	68 (±3.91)	0.005
Male gender – n (%)	18 (67)	19 (61)	0.786
White race – n (%)	23 (85)	29 (94)	0.754
Favorable risk – n (%)	15 (56)	21 (68)	0.502

Figure 1: Time to hematologic recovery

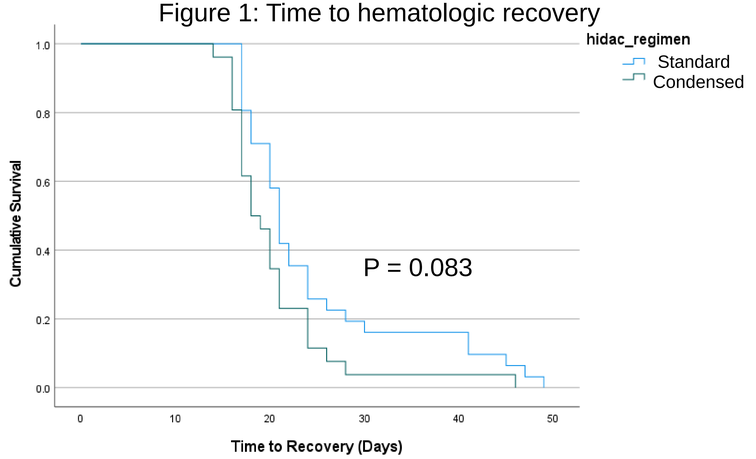

Table 2. Primary and Secondary Outcomes

	Condensed	Standard	P-value
Mean time to hematologic recovery (days)	20.2	23.7	0.083
Mean length of stay (days)	3.2	5.1	<0.001
Mean day of pegfilgrastim	5.03	6.58	N/A
Febrile neutropenia – n (%)	6 (19%)	1 (3%)	N/A
	Odd Ratio (95% CI)		P-value
Abnormal bone marrow after consolidation (efficacy)	1.08 (0.15-7.83)		0.939
Febrile neutropenia	8.57 (1.01 – 73.11)		0.049

Discussion

- No statistically significant difference in:
  - Mean hematologic recovery time
  - Abnormal bone marrow biopsy
- Condensed regimen demonstrated:
  - Statistically significant ↑ in incidence of febrile neutropenia requiring inpatient admission
  - Statistically significant ↓ in mean length of stay by 2 days
  - Numerically sooner pegfilgrastim administration day

Conclusions

- Compared to the original Jaramillo study, our study found for our population of patients ≥ age 60:
  - Condensed regimen did not shorten hematologic recovery and led to an increase of febrile neutropenia
  - Similar decrease in mean length of stay

Future Directions

- Inter-professional collaboration to determine default regimen for patients ≥ age 60
  - Consider using standard HIDAC-iDAC in these patients

Limitations

- Insufficiently powered primary endpoint
- Retrospective design

Disclosure/References

1. Pelcovits A, Niroula R. R I Med J (2013). 2020 Apr 1;103(3):38-40
2. Sperr WR, Piribauer M, Wimazal F, Fonatsch C, Thalhammer-Scherrer R, Schwarzinger I, et al. Clin Cancer Res. 2004 Jun 15;10(12 Pt 1):3965-71
3. Jaramillo S, Benner A, Krauter J, Martin H, Kindler T, Bentz M, et al. Blood Cancer J. 2017 May 26;7(5):e564