Outcomes of Patients With Acute Myeloid Leukemia Treated at a Safety-Net Hospital

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Abstract

Background: Achievement of complete remission (CR) is the goal of initial treatment in patients with acute myeloid leukemia (AML). However, even when CR is achieved, these patients are at risk of having their disease relapse. Consolidation treatment, either with chemotherapy or an allogeneic hematopoietic cell transplant (HCT), is offered after CR to achieve long-term survival. HCT provides the best chance to cure patients with relapsed or refractory AML. HCT is available only in specialized centers. Patients who are uninsured/self-pay are treated at safety-net hospitals and have difficulty getting HCT. We looked at outcomes of AML at John Peter Smith (JPS) Hospital, a safety-net hospital in Tarrant County, Texas.
Methods: We used data from the JPS Oncology Registry to identify patients with AML from 1/1/2017 to 12/31/2020 who received partial or full treatment at JPS. Patients who were diagnosed at JPS but received all their treatment elsewhere were excluded. Patients who were only offered supportive care were excluded. Using EPIC EMR and its Care Everywhere features, information was collected, including induction regimens, bone marrow reports, initial cytogenetics, consolidation chemotherapy regimen, HCT, relapse, and how relapse was treated.
Results: Nineteen patients were included. Median age at diagnosis was 56 years (range 30–63 years), and 5 were younger than 50 years. Four patients did not have a social security number (SSN) (undocumented). Eleven have died (2 without SSNs), 1 from toxicity, and 10 from leukemia (refractory or relapsed). CR was achieved in 12/19 (63%) patients after induction chemotherapy. Of the 8 patients that remain alive, 2 received chemotherapy only and are cured (both had favorable cytogenetics); 3 received HCT, and a fourth patient is awaiting HCT; and 2 have active disease and are on palliative chemotherapy only, with no access to HCT in the United States because they do not have SSNs.
Conclusions: Survival is poor for patients with AML treated at JPS with chemotherapy alone. Allogeneic HCT improves the cure rate for patients with AML. Patients without SSNs do not have access to HCT and have poor outcomes. Institutional and state-level policymakers should address how to best care for patients without SSNs.

Background

Safety net hospitals face unique challenges in providing high quality care in resource constrained environments.[1] JPS hospital in Tarrant county, Texas, is a large 600+ bed hospital, serving the need of uninsured and underinsured population. Patients diagnosed with AML predominantly undergo treatments in academic and larger leukemia treatment centers. [2] Achievement of a CR following induction chemotherapy is an initial appropriate goal for most patients with AML. Consolidation treatment, either with chemotherapy or an allogeneic HCT is offered after CR. At 10 years, 16.6% of patients under 60 years treated with chemotherapy under CALGB protocols were aive.[3] HCT provides the best chance to cure a patient with relapsed or refractory AML. Safety net hospitals generally are able to provide chemotherapy but not HCT, so patients are referred to HCT centers when able.

Objective

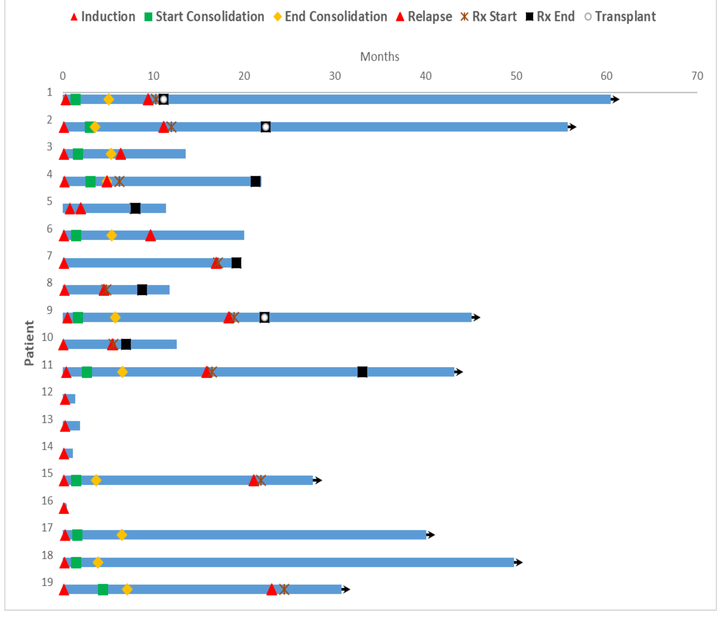
To evaluate outcomes of patients with AML treated at JPS. Outcome measures include CR to 1st induction, CR to re-induction, mortality in 30 and 60 days, HCT use and survival.

Race/ethnicity	Number	Insurance at diagnosis	Later insurance
Hispanic	8	self pay	JPSC=2 self pay=4 (no SSN)insured=2
White	8	self pay	JPSC=2 insured=6
Black	2	self pay=1 HMO=1	self pay=1 insured=1
others	1	self pay	JPSC=1

Cyto/molecular abnormality	CR after 1st Induction	CR to Reinduction
inv16=3	100%	
FLT3 =3	67%	n=1(yes) Died in 60d(tox)n=1_
IDH2=2	50%	n=1(yes)
NPM=2	100%	
normal=3	67%	n=1(yes)
trisomy 8, IDH1=1	100%	
inv3, MECOM=1	0%	n=1(no)
multiple abn=2	0%	Died in 60d(n=2)
t(8:21)=1	100%	
t(9:11)=1	not assessed	Died in 30d(tox)

Materials & Methods

We used data from the JPS Oncology Registry, an institutional registry for the JPS Oncology and Infusion Center (Fort Worth, TX) to identify patients diagnosed with AML from 1/1/2017 to 12/31/2020, and who received induction chemotherapy and had part or full treatment at JPS. EPIC data was collected as of 3/31/2022.



Summary

19 patients with AML were treated at JPS. Median age was 56 and range 30 to 63 years of age. 13 were male. 4 did not have social security number (SSN) (undocumented). 12/19 (63%) achieved complete response after induction chemotherapy. Additional 3 patients achieved CR after re-induction regimen 11 patients have died (2 without SSN), 1 from toxicity, 10 from leukemia (refractory or relapsed). Of the 8 patients that are alive, 2 received chemotherapy only and have been in remission following consolidation regimens. They both had favorable cytogenetics, one each with t(8:21) and inv 16 and are close to 3 and 4 years since completion of all treatment. 3 patients who relapsed following consolidation were able to get HCT (2 haplotransplant and 1unrelated donor), all 3 are alive without disease following HCT. 1 patient is awaiting transplant. 2 patients have active disease and are on palliative chemotherapy only and do not have option for transplant as they do not have SSN.

Discussion

Only about 10% patients with AML are cured with chemotherapy alone at JPS. Of patients who survived beyond 60days, 86% relapsed. About half were able to be referred to transplant centers. Of patients seen at transplant centers, majority were able/on list to get HCT.Access to HCT significantly increases chances of survival. Therefore, we recommend all patients with new diagnosis of AML be treated at academic centers with HCT for better outcomes. A large database study showed that receipt of initial therapy at academic centers is associated with higher long-term overall survival. [4] All patients without SSN were Hispanic, 2 had died, 2 alive with disease. Discussions regarding broad policy changes need to happen at local, state and federal levels for better outcomes of all patients with AML.

References

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