Treatment and Transplant Outcomes of Concurrent Clonal Lymphoid and Myeloid Neoplasms: A Case Series

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Introduction

- Concurrent myeloid and lymphoid neoplasms are rare but more common than expected in the general population
- Treatment prioritization and outcomes, including allogeneic stem cell transplant (allo-SCT), are poorly understood
- We conducted a single center retrospective review of patients at a tertiary care center to further investigate treatment and transplant outcomes of patients with concurrent clonal lymphoid and myeloid neoplasms.

Methods

- 60 patients with concurrent myeloid and lymphoid neoplasms diagnosed between 2012 and 2025 were identified
- Exclusion of reactive T cell clones and therapy related myeloid neoplasms, which are common sequential events, left 39 remaining patients.
- Diagnoses were confirmed by two physician reviewers
- Descriptive statistics were used to characterize the cohort and treatment outcomes. Kaplan Meier method was used for overall survival analysis.

Results- Concurrent Treatment and/or Transplant

Patient	Age	Myeloid Dx	Lymphoid Dx	Treatment Regimen	Allo-SCT	Complications	Outcome
1	66	CHIP (*DNMT3A*) with myeloid hyperplasia and splenomegaly	IgA Multiple Myeloma	CyBorD (incomplete response 2017), DaraVD (2018), AutoSCT with Melphalan (2019)	Y	BK viremia, hemorrhagic cystitis, HHV-6 viremia	Complete Remission (5 years)
2	75	MDS-EB2 (high risk)	Lymphoplasmacytic Lymphoma	Rituximab (2020) Azacitidine (2021)	Y	Neutropenic Fever, hemoptysis	Deceased Day +10 from SCT
3	65	AML-MR	Monoclonal B-cell Lymphocytosis	Cytarabine/Mitoxantrone (2018)	Y	Mucositis, anasarca, *Strep mitis* bacteremia	AML relapse at 5 years; MBL in remission
4	50	CHIP (*DNMT3A*)	Peripheral T cell Lymphoma	CHOEP (2022)	Y	COVID	In remission (2 years)
5	81	MDS (intermediate risk)	MALT Lymphoma	Decitabine (2022-2023) Rituximab (2023)	N	Hip Fracture	Deceased (2024)
6	88	Essential Thrombocytosis	Marginal Zone Lymphoma	Rituximab (2017) Hydroxyurea (2017)	N	Anemia	Deceased (2022)
7	68	MDS (dx 2019; progressed to EB2 3/2021)	Burkitt Lymphoma (dx 3/2021)	DA-EPOCH-R (2021) Decitabine/ Venetoclax (2022)	N	Worsening Pulmonary Hypertension	Deceased after 5 cycles of HMA (2022)
8	76	MDS-MLD (high risk)	Marginal Zone Lymphoma	Decitabine (2020) Rituximab/Enasidenib (2021) Decitabine/ Cedazuridine (2022)	N	Urosepsis	Deceased after 1 cycle HMA (2022)
9	72	MDS-EB2 (high risk)	CLL	Decitabine/gilteritinib/rituximab (2024)	N	Intraparenchymal Hemorrhage	Deceased after 8 cycles HMA (2025)
10	84	CMML	Hairy Cell Leukemia	Rituximab (2024) Decitabine/ Cedazuridine(2024)	N	Neutropenic Fever, Fatigue, Fall	Deceased after 3 cycles HMA (2025)

Table 1: Treatment Regimens and Clinical Complications/Outcomes of patients who received therapy for both of their hematologic conditions and/or those who underwent allogeneic stem cell transplant.

Allo-SCT= Allogeneic Stem Cell Transplant; AML = Acute Myeloid Leukemia; CHIP = Clonal Hematopoiesis of Indeterminate Potential; CHOEP = Cyclophosphamide, Doxorubicin, Etoposide, Vincristine, Prednisone; CLL = Chronic Lymphocytic Leukemia; CMML = Chronic Myelomonocytic Leukemia; CMO = Comfort Measures Only; CyBorD = Cyclophosphamide, Bortezomib, and Dexamethasone; DaraVD = Daratumumab, Bortezomib, Dexamethasone; Dx= Diagnosed; EPOCH = Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin; Flu/Cy/TBI = Fludarabine, Cyclophosphamide, Total Body Irradiation; Flu/mel = Fludarabine, Melphalan; IT araC = Intrathecal Cytarabine; MDS = Myelodysplastic Syndrome; N = No; Y = Yes

Discussion

- Concurrent hematologic malignancies are more common in older adults.
- Sequencing of therapies is commonly employed based on disease priority, but toxicities of therapies may be more severe.
- Use of allo-SCT can be curative for both neoplasms in the appropriate patient.

Results-Patient Characteristics

- Mean age at the time of the patient's second confirmed diagnosis- either myeloid or lymphoid, was 77 years. Ages ranged from 50-93
- 19 patients (49%) were female
- The most common myeloid conditions were myelodysplastic syndrome (MDS)/acute myeloid leukemia (AML) (46%) and clonal cytopenia of undetermined significance (CCUS)/clonal hematopoiesis of indeterminate potential (CHIP) (23%)
- The most common lymphoid conditions were chronic lymphocytic leukemia (CLL) (15%), monoclonal B-cell lymphocytosis (MBL) (15%), diffuse large B-cell lymphoma (10%), and monoclonal gammopathy of undetermined significance (MGUS) (10%)

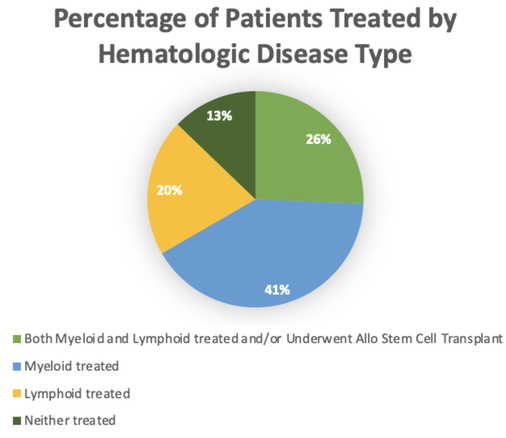


Figure1: Percentage of patients treated by Hematologic Disease Type.

Results

- 16 patients (41%) received treatment for their myeloid condition only, 8 (20%) for their lymphoid condition only, and 10 (26%) for both myeloid and lymphoid conditions; additionally, 4 patients (10%) underwent allo-SCT.
- Transplanted patients were diagnosed with refractory IgA multiple myeloma/CHIP, lymphoplasmacytic lymphoma/MDS, MBL/AML, and peripheral T-cell lymphoma/CHIP.
- Of the transplanted patients, 2 remain in remission for both conditions, 1 patient died on day +10, and 1 patient is undergoing treatment for relapsed AML.
- In the nontransplant recipients, treatment primarily consisted of sequencing of hypomethylating agents and rituximab with or without chemotherapy.
- Median overall survival time for this cohort was 24 months

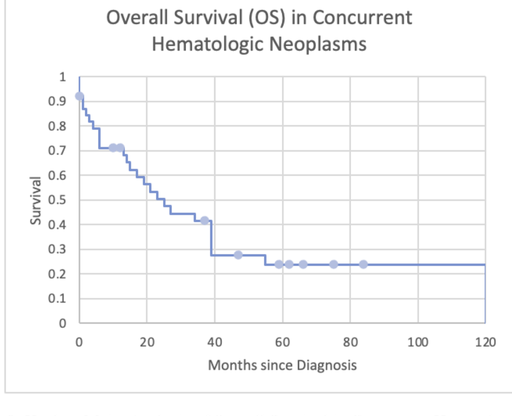


Figure 2: Kaplan–Meier Analysis of Overall Survival in Concurrent Hematologic Malignancies

References

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