

# Treatment and outcomes for chronic myelomonocytic leukemia compared to myelodysplastic syndromes in older adults

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Online Supplementary Table S1. Characteristics of CMML and MDS Patients.

Characteristics	CMML (N=792) %	MDS (N=7,385) %	P
Chronic myelomonocytic leukemia, NOS	100.0		
Myelodysplastic syndrome (MDS)			
Lower-risk		34.8	
RA		17.1	
RARS		11.6	
RCMD		4.5	
5q Del		1.7	
Higher-risk			
RAEB		13.2	
Risk not specified		52.0	
t-MDS		1.4	
MDS, NOS		50.6	
Sex (Male)	59.2	54.4	0.010
Age at diagnosis			ns
<65	2.5	4.2	
65-69	10.0	9.0	
70-74	16.9	16.7	
75-79	23.7	23.6	
80-84	25.9	24.9	
85+	21.0	21.6	
Race/ethnicity			0.010
White, non-Hispanic	90.4	87.6	
Black, non-Hispanic	5.4	6.7	
Other	4.2	5.7	
Other primary cancer (within 5 years prior to diagnosis)	8.8	10.4	ns
Co-morbid conditions (12 months prior to diagnosis)			
Acute myocardial infarction	2.7	3.34	ns
Chronic heart failure/ischemic heart disease	37.4	47.1	<0.0001
Conduction disorder	25.4	30.3	0.004
Deep vein thrombosis/Pulmonary embolism	3.8	3.6	ns
Hepatitis or other liver diseases	2.8	4.8	0.010
Renal disease	13.0	15.1	ns
Stroke	7.8	9.1	ns
Alzheimer's disease	6.4	8.2	0.080
Bipolar, major depression or schizophrenia	8.6	9.2	ns
Healthcare use (12 months prior to diagnosis)			
Hospitalization	38.5	43.2	0.012
Oxygen and related supplies	6.3	6.9	ns
Skilled nursing facility admission	8.3	9.4	ns
Walking aids	6.8	7.3	ns
Wheelchair claims	4.8	6.8	0.033
Nursing home stay	7.8	9.8	0.070

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Median household income quartiles (US Dollars)			ns
Lowest (less than or equal to \$35,386)	22.4	25.2	
Second (\$35,387-\$46,387)	25.1	24.9	
Third (\$46,388-\$61,180)	24.5	25.0	
Highest (more than \$61,180)	27.7	24.6	
Year of diagnosis			ns
2001	18.2	16.6	
2002	18.4	17.9	
2003	22.6	21.3	
2004	20.5	23.1	
2005	20.3	21.1	

ns: non-significant,  $P > 0.10$ . NOS: not otherwise specified; RA: refractory anemia; RARS: refractory anemia with sideroblasts; RCMD: refractory cytopenia with multilineage dysplasia; 5q del: myelodysplastic syndrome with 5q deletion syndrome; RAEB: refractory anemia with excess blasts; t-MDS: therapy-related myelodysplastic syndrome. Source: Analysis of SEER-Medicare cases from 2001-2005; claims from 2000-2007.

Online Supplementary Table S2. Hazard Ratios (HR) for progression to AML or death.

	CMML and MDS Cohort (N= 8,177)		HR	P	CMML Cohort (N= 792)	
	HR	P			HR	P
<b>Independent variables</b>						
Chronic myelomonocytic leukemia (CMML), NOS	2.22	<0.0001	3.19	<0.0001		
<b>Myelodysplastic syndrome (MDS)</b>						
Lower-risk						
RA			-	-		
RARS			0.83	0.001		
RCMD			1.47	<0.0001		
5q Del			1.55	<0.0001		
Higher-risk						
RAEB			3.27	<0.0001		
Risk not specified						
t-MDS			1.92	<0.0001		
MDS, NOS			1.46	<0.0001		
<b>Patients' characteristic covariates</b>						
Sex (Female)	0.79	<0.0001	0.80	<0.0001	0.86	0.060
<b>Age at diagnosis</b>						
<65	0.95	ns	0.92	0.329	0.89	ns
65-69	-	-	-	-	-	-
70-74	1.01	ns	0.99	0.877	1.02	ns
75-79	1.03	ns	1.03	0.589	1.08	ns
80-84	1.15	0.007	1.16	0.005	1.11	ns
85+	1.51	<0.0001	1.52	<0.0001	1.50	0.007
<b>Race/ethnicity</b>						
White, non-Hispanic	-	-	-	-	-	-
Black, non-Hispanic	0.83	0.001	0.82	0.001	0.97	ns
Other	0.97	ns	0.99	ns	1.39	0.099
<b>Median household income quartiles (US Dollars)</b>						
Lowest (less than or equal to \$35,386)						
Second (\$35,387-\$46,387)	0.92	0.018	0.91	0.013	0.66	0.000
Third (\$46,388-\$61,180)	0.91	0.009	0.93	0.058	0.72	0.006
Highest (more than \$61,180)	0.89	0.002	0.90	0.004	0.77	0.023
Other primary cancer (within 5 years prior to diagnosis)	1.14	0.002	1.13	0.005	1.02	ns
Transfusion use prior to diagnosis	1.28	<0.0001	1.29	<0.0001	1.15	ns
<b>Co-morbid conditions (12 months prior to diagnosis)</b>						
Acute myocardial infarction	1.00	ns	1.01	ns	1.28	ns
Chronic heart failure/ischemic heart disease	1.01	ns	1.03	ns	0.78	0.007
Conduction disorder	1.07	0.023	1.08	0.012	1.06	ns
Deep vein thrombosis/pulmonary embolism	1.10	ns	1.08	ns	1.22	ns
Hepatitis or other liver diseases	1.18	0.006	1.14	0.034	1.15	ns
Renal disease	1.03	ns	1.04	ns	1.22	ns
Stroke	0.97	ns	0.98	ns	1.14	ns
Alzheimer disease	1.25	<0.0001	1.29	<0.0001	1.02	ns
Bipolar, major depression or schizophrenia	1.09	0.067	1.10	0.046	1.11	ns
<b>Healthcare use (12 months prior to diagnosis)</b>						
Hospitalization	1.07	0.052	1.07	0.042	1.08	ns
Oxygen and related supplies	1.31	<0.0001	1.32	<0.0001	1.13	ns
Skilled nursing facility admission	0.93	ns	0.98	ns	0.97	ns
Walking aids	0.92	0.086	0.92	0.088	1.07	ns
Wheelchair claims	1.26	<0.0001	1.25	<0.0001	1.23	ns
Nursing home stay	1.24	0.002	1.21	0.008	0.96	ns
Had Medicaid in the year prior to diagnosis	0.99	ns	1.02	ns	1.05	ns
<b>Year of diagnosis</b>						
2001	-	-	-	-	-	-
2002	0.95	ns	0.94	ns	1.15	ns
2003	0.91	0.027	0.92	0.035	0.88	ns
2004	0.90	0.011	0.91	0.022	0.94	ns
2005	0.96	ns	0.93	0.090	1.04	ns

\*. - means that the reference category for the hazard ratio. CMML: chronic myelomonocytic leukemia; MDS: myelodysplastic syndrome; AML: acute myeloid leukemia. NOS: not otherwise specified; RA: refractory anemia; RARS: refractory anemia with sideroblasts; RCMD: refractory cytopenia with multilineage dysplasia; 5q del: myelodysplastic syndrome with 5q deletion syndrome; RAEB: refractory anemia with excess blasts; t-MDS: therapy-related myelodysplastic syndrome. Source: Analysis of SEER-Medicare cases from 2001-2005; claims from 2000-2007.