

BACKGROUND

- Chronic lymphocytic lymphoma (CLL) is the most common type of leukemia with estimated 20,720 new cases in 2019 in United States¹
- Chemoimmunotherapy with FCR is an effective standard treatment for fit young patients.
- Ibrutinib, an oral small molecule BTK inhibitor was approved by the FDA in 2014 for use in CLL..
- Several other novel agents such as Bcl-2 inhibitors (Venetoclax), PI3 kinase inhibitors (Idelalisib) are now available for treatment of CLL either alone or in combination with other targeted agents
- However, population level data on outcomes of CLL in the era of targeted agents is sparse

METHODS

- Using SEER database,² we identified patients aged ≥ 20 years with pathologically confirmed CLL/SLL (ICD-0-3 code 9823/3), diagnosed between the years 2011-2016 and actively followed
- Patients were divided into two groups by the period of diagnosis- 2011-2013, 2014-2016, reflecting the period pre and post ibrutinib approval
- Overall Survival (OS) was compared between the two groups using Kaplan-Meier method and log rank test
- Cox proportional hazard regression method was used to determine the influence of time and demographic factors on OS. Statistical analyses were carried out with significant two- sided p < 0.05

RESULTS

- A total of 30701 patients with a median age of 69 years(range 21-104) were included
- Males(60.9%) and White race (80.8%) contributed to the majority as summarized in table 1

RESULTS

Table 1: Baseline Characteristics

Variable	Number of Patients (N=30701)
Age, median (range)	69(21-104)
Gender	
Male	18702(60.9%)
female	11999(39.0%)
Race	
Non-Hispanic Whites	24805(80.5%)
Non-Hispanic Blacks	2375(7.7%)
Non-Hispanic American Indian/Alaskan Native	77(0.2%)
Non-Hispanic Asian/Pacific Islander	701(2.2%)
Non-Hispanic Unknown race	1072(3.4%)
Hispanics	1671(5.4%)
Period of Diagnosis	
2011-2013	15116(49.2%)
2014-2016	15585(50.7%)

Table 2: Multivariate Analysis

Variable	Hazard Ratio	95% HR Confidence Limits	p-Value
2014-2016	0.907	0.853-0.965	0.0020
Female	0.740	0.702-0.781	<0.0001
Hispanic (All Races)	1.182	1.054-1.325	0.0041
Non-Hispanic American Indian/Alaskan Native	0.824	0.412-1.648	0.5839
Non-Hispanic Asian or Pacific Islander	1.025	0.852-1.232	0.7934
Non-Hispanic Black	1.410	1.287-1.545	<0.0001
Non-Hispanic Unknown Race	0.117	0.074-0.186	<0.0001

Figure 1: Survival by age

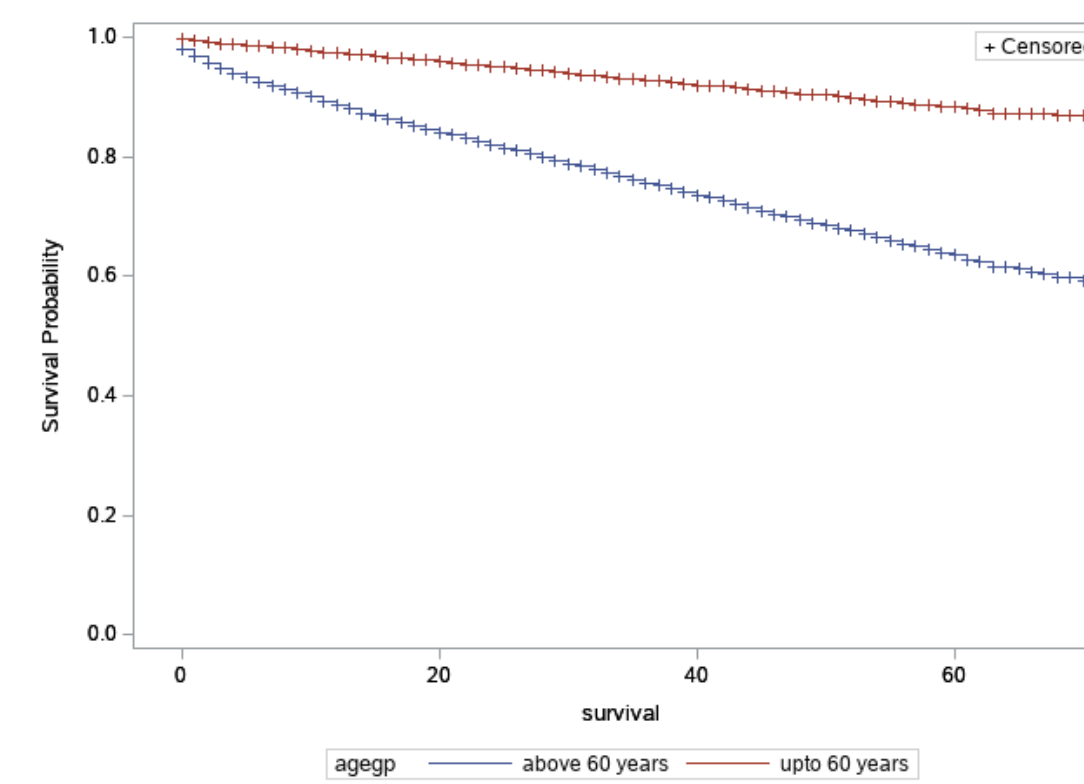


Figure 2: Survival by gender

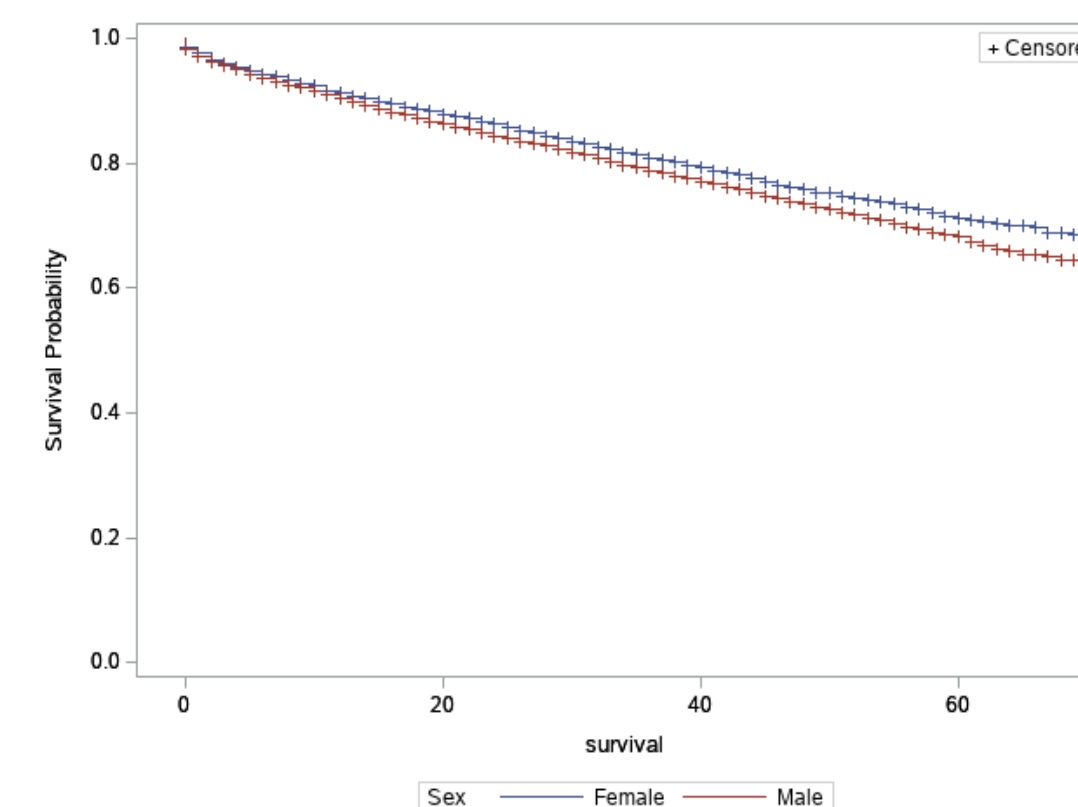


Figure 3: Survival by Race/ethnicity

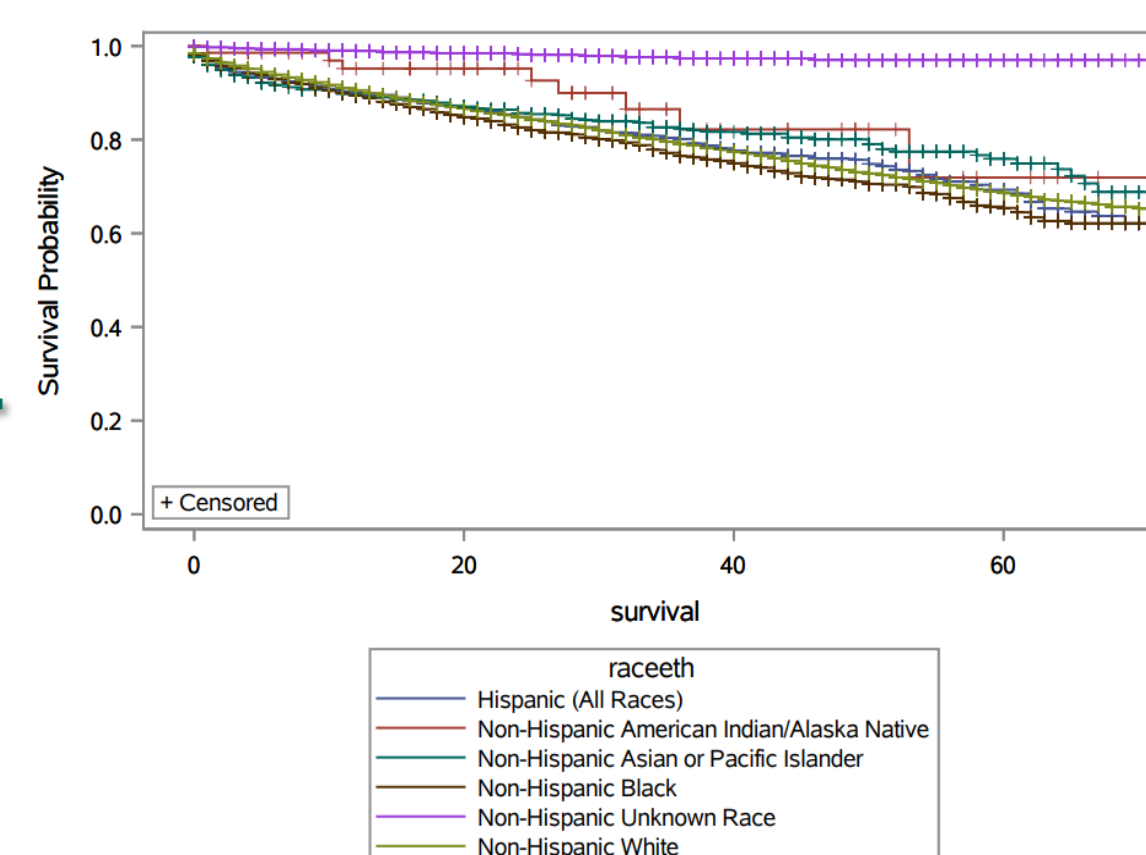
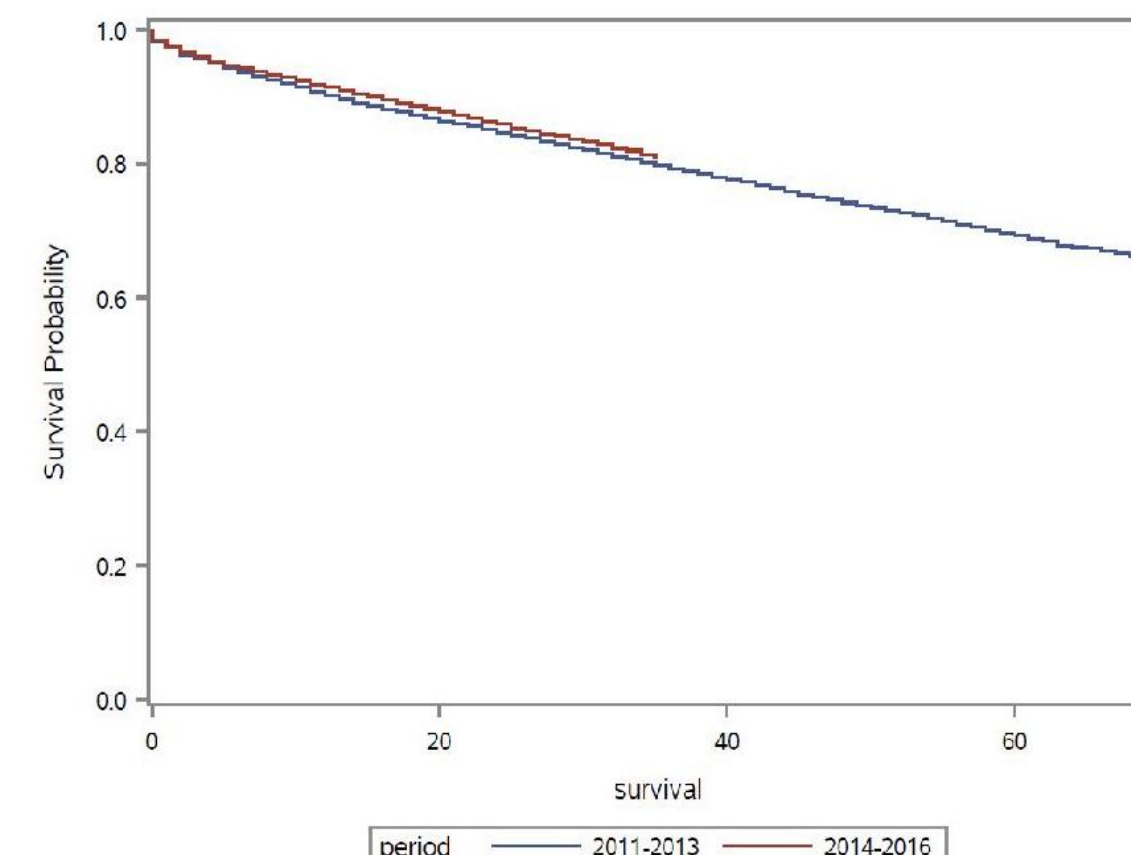


Figure 4: Adjusted survival by period



RESULTS

- Median OS was not reached
- OS at 30 months was significantly higher for patients diagnosed from 2014-2016 (83.3%) compared to those diagnosed from 2011-2013(81.7%) (p=0.001)
- OS at 30 months also varied significantly by race/ethnicity- Hispanics (81.9%), Non-Hispanic Blacks(80.1%), Non-Hispanic whites(81.9%), Non-Hispanic American Indians(89.9%), Non-Hispanic Asian pacific Islanders (83.9%), Non Hispanic Unknown race (97.8%)
- Females had a better 30- month OS than males (83.3% Vs 81.6%). OS also decreased with increasing age
- On multivariate analysis, females had a lower risk of mortality (table 2). Increasing age, Hispanic and Non-Hispanic black races were associated with higher mortality
- Diagnosis in the period 2014-2016 was associated with lower risk of mortality after adjusting for age, gender and race/ethnicity

CONCLUSION

- Survival of patients with CLL at the population level is improving in the era of targeted agents
- Factors such as age, gender and race/ethnicity continue to influence the survival, highlighting the need for continued research to address these discrepancies

REFERENCES

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- Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2018 Sub (1975-2016 varying) - Linked To County Attributes - Total U.S., 1969-2017 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2019, based on the November 2018 submission

Disclosures: Atallah: Jazz: Consultancy; Novartis: Consultancy; Pfizer: Consultancy; Helsinn: Consultancy; Helsinn: Consultancy; Takeda: Consultancy, Research Funding; Hamadani: Janssen: Consultancy; Merck: Research Funding; ADC Therapeutics: Consultancy, Research Funding; Pharmaclics: Consultancy; Takeda: Research Funding; Celgene: Consultancy; Sanofi Genzyme: Research Funding, Speakers Bureau; Medimmune: Consultancy, Research Funding; Otsuka: Research Funding; Guru Murthy: Cardinal Health Inc.: Honoraria