Abstract: P1860

Title: COVID-19 IN PATIENTS WITH CHRONIC MYELOID LEUKEMIA: FINAL RESULTS FROM THE GLOBAL OBSERVATIONAL ICMLF CANDID STUDY

Abstract Type: e-Poster Presentation

Topic: Chronic myeloid leukemia - Clinical

Background:

The global emergency status for coronavirus disease COVID-19 ended in May 2023 but the pandemic is still ongoing as SARS CoV-2 mutates and variants continuously emerge. Cancer is a risk factor for COVID-19-related death and SARS-CoV2 infections remain common despite vaccines and antiviral drugs, justifying the need for continued research. Heterogeneity across malignancies subtypes, or their treatment do exist and pts with chronic myeloid leukemia (CML) are underrepresented in most international studies dedicated to COVID-19.

Aims:

The International CML Foundation (iCMLf) designed the CANDID observational study before the vaccination era with the primary aim to characterize SARS-CoV-2 infection among CML pts globally, including the search for predisposing factors of severe/critical COVID-19 or mortality. Key secondary aim was to provide guidance for clinical care in the light of the CANDID experience and latest knowledge in the post vaccine era.

Methods:

From March 2020 to November 2021, CANDID collected data on CML pts with biologically confirmed or highly suspected SARS-CoV-2-infection. Data included demographic and geo-economics characteristics, comorbidities, CML-related items and COVID-19 diagnosis and severity as defined by the World Health Organization. Overall survival (OS) was estimated by the method of Kaplan-Meier. Clinical, socioeconomical and biological variables were assessed as potential prognostic factors for COVID-19 severity or mortality in univariate and multivariate models.

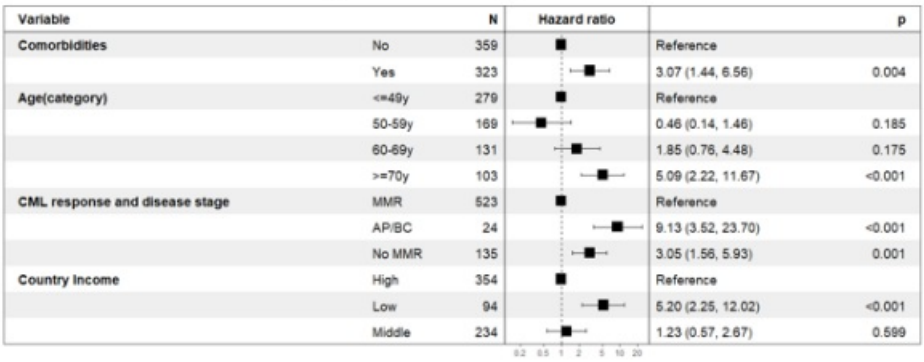
Results:

1050 pt cases involving 205 physicians from 57 different countries were collected; 31 cases without follow-up information were excluded. Seven hundred cases (67%) were reported prior to January 2021 when COVID-19 vaccinations were more widely available. Median age was 52 years (range: 16-94) and 58% of pts were male. The majority of pts were TKI-treated (84%) and 45% suffered from at least 1 major comorbidity including cardiovascular disease, diabetes, chronic lung disease and obesity. Asymptomatic infection occurred in 7% of the cases. Symptomatic COVID-19 was mild or moderate in 57% and 20% of the cases, respectively. Severe/critical COVID-19 occurred in 13% of the cases. Combined mortality rate (COVID-19 and non-COVID-19) during the observation period was 13%. Multivariate Cox-proportional hazard analysis showed that older age, major comorbidities, non-optimally-controlled/advanced phase CML, and living in a lower-income country were independently associated with poor OS (Figure 1). No difference in OS (92% vs 96%, p=0.27) and severity (12.6% vs 9.6%, p=0.35) was observed between pts in treatment-free remission (n=95) and those well-controlled on TKI treatment (n=418).

Summary/Conclusion:

Most patients with CML experience mild/moderate forms of COVID-19 and severity/mortality seems lower than that observed in other hematological malignancies especially those of lymphoid origin. COVID-19 severity/mortality depends on both CML and non-CML-related factors. CML pts should be informed that primary and booster COVID-19 vaccines, which were demonstrated to be beneficial in other studies, are key to not only to prevent or mitigate individual risk of infection but also to minimize transmission of the disease.

Figure 1: OS multivariate Cox proportional



Variable		N	Hazard ratio	p
Comorbidities	No	359	Reference	
	Yes	323	3.07 (1.44, 6.56)	0.004
Age(category)	<=49y	279	Reference	
	50-59y	169	0.46 (0.14, 1.46)	0.185
	60-69y	131	1.85 (0.76, 4.48)	0.175
	>=70y	103	5.09 (2.22, 11.67)	<0.001
CML response and disease stage	MMR	523	Reference	
	AP/BC	24	9.13 (3.52, 23.70)	<0.001
	No MMR	135	3.05 (1.56, 5.93)	0.001
Country Income	High	354	Reference	
	Low	94	5.20 (2.25, 12.02)	<0.001
	Middle	234	1.23 (0.57, 2.67)	0.599

Keywords: COVID-19, Chronic myeloid leukemia, Clinical outcome