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ELEVENTH ANNUAL MEETING

Evaluation of Antibody Responses Among Five Different SARS-CoV-2 Vaccines in Chronic Myeloid Leukemia (CML) Patients – A Real-World Study

ACM Toreli[1], M Miranda-Galvis [2], M Addas-Carvalho[1], E Miranda[1], L Fechio[1], A Silva Duarte[1], A Basso[1], G Duarte[1], S Medina[1], F Pericole[1], B Benites[1], R Kolhe[3], K Jones[3], H Sigh[3], STO Saad[1], AS Carmino[1], JE Cortes[2], K Pagnano[1].

[1]Hematology and Hemotherapy Center, University of Campinas, Brazil. [2]Georgia Cancer Center, Augusta University, US .[3]Departament of Pathology, Augusta University, US.

UNICAMP
GEORGIA CANCER CENTER AUGUSTA UNIVERSITY

Contact Information:
caroltoreli@gmail.com

INTRODUCTION

- Patients with hematologic malignancies have displayed lower rates of seroconversion to SARS-CoV-2 vaccines.
- There is limited data concerning the immunogenicity post-vaccination among CML patients.

AIM

- To analyze the seroconversion rates following at least two doses of five different SARS-CoV-2 vaccines among CML patients.
- To explore the association between antibody responses, tyrosine kinase inhibitors (TKIs) and treatment response.

METHODS

- We evaluated a cohort of 135 CML patients, from two centers (Brazil and USA).
- We collected blood sample after two doses of the SARS-CoV-2 vaccines to measure SARS-CoV-2 IgG antibodies.

RESULTS

Table 1. Baseline Clinic and Demographic Characteristics

Variable	Brazil n= 102 (%)	USA n= 33 (%)	p-value
Sex. Male	60 (59)	19 (57)	p=0.90
Age. Median (range)	58 (33-85)	57 (26-80)	p=0.82
Ethnicity			
Hispanic	102 (100)	03 (10)	p=0.01*
Non Hispanic	0 (0)	27 (80)	
Comorbidities. Yes	68 (67)	29 (87)	p=0.04*
CML. Chronic phase	100 (98)	43 (100)	p=0.42
Current TKI			
Imatinib	52 (51)	7 (21)	p<0.01*
Dasatinib or Nilotinib	33 (32)	4 (12)	
Bosutinib or Ponatinib	3 (3)	9 (27)	
Years TKI. Median (range)	7.0 (1.5-20.5)	7.2 (1.5-23.0)	p=0.69
Current Molecular Response			p=0.24
MMR	36 (35.5)	6 (18)	
MR4.0 or MR4.5	47 (46.5)	15 (45)	
MMR not achieved	18 (18)	8(24)	

Table 2. COVID-19 According to Status of Vaccination and Center

	Brazil n=102 (%)		USA n=33(%)		p-value
SARS-CoV-2 Vaccines	Pre	Post	Pre	Post	p= 0.73
Severity. Mild symptoms	12 (11)	25 (24)	5 (15)	9 (27)	
Deaths	0	0	0	0	

Figure 1. Vaccine Brand According to Center

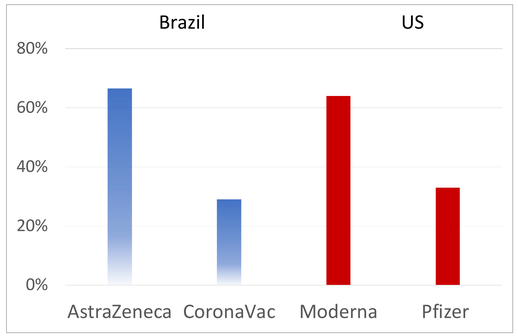


Figure 3. Seroconversion Rate According Center

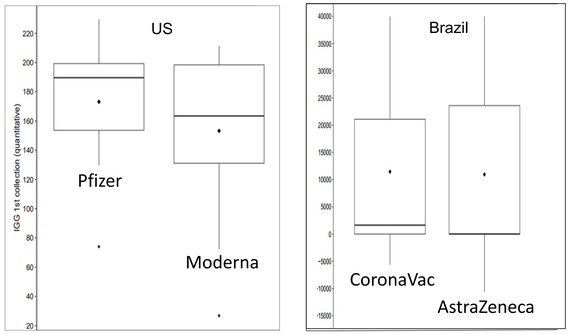


Figure 2. COVID-19 According to Vaccination Status

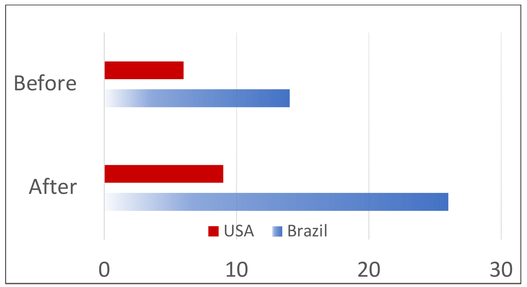
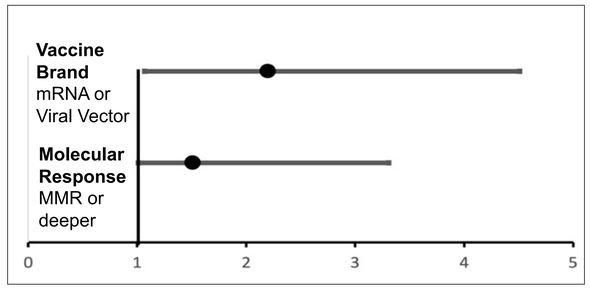


Figure 5. Predictive Factors of Sercovonversion Rates



CONCLUSIONS

- Patients receiving mRNA and recombinant viral vector vaccines and those with at least MMR have the highest seroconversion rate after vaccination.
- Our results suggest that all vaccine types may prevent severe COVID-19 in CML patients.