A Retrospective Cohort to Demonstrate the Impact of Coronavirus Disease (COVID-19) on Compliance Rates among a Home Infusion Provider's Population of Multidrug Resistant HIV-1 Infected Patients

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Introduction/Background

Ibalizumab-uiyk is used in conjunction with oral antiretroviral therapy (ART), approved for individuals infected with multidrug resistant HIV-1 which are failing their current ART therapy.[1] A retrospective study conducted in 2019, showed 85% compliance to ibalizumab-uiyk and ART regimen in patients utilizing a compliance-focused care model.[2]

A longitudinal study demonstrated a decrease in access to medications and increased cancellations of health care appointments during the COVID-19 pandemic.[3] A recent survey showed an average therapy compliance rate of 33% in HIV infected individuals.[4] Although literature is limited, results of current published studies show a potential impact on regimen compliance.

Purpose/Objective

The objective of this study is to demonstrate the impact of COVID-19 on compliance to ibalizumab-uiyk infusions, oral ART regimen and home infusion discharge rate while using previously studied medication compliance strategies. A decrease in overall compliance is expected in the post-COVID cohort.

Methods

A retrospective cohort analysis of ibalizumab-uiyk treated patients. Evaluated data included subjects' electronic record of oral ART compliance, infusion site of care, ibalizumab-uiyk dispense history and discharges.

Cohorts were as follows: Group A (pre-COVID-19) patients treated between June 1, 2019 - February 28, 2020 and Group B (post-COVID-19) patients treated between April 1, 2020 - December 31, 2020. March 2020 was excluded from both cohorts as a pre- and post-COVID transitional period.

Outcome parameters include overall compliance rate of ibalizumab-uiyk based on dispense history and discharge rate. Infusions were considered non-compliant if ibalizumab-uiyk maintenance dose was missed by greater than 3 days. Missed doses were further categorized as compliant or non-compliant where patients were considered compliant if dose was missed due to hospitalization or insurance reasons. Patients were considered compliant on oral ART regimen when documented as compliant in clinical assessments. No exclusions.

Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: Deborah Dahlke; Nothing to disclose.

Table 1: Inclusion Data

	Group A, Pre-COVID-19	Group B, Post-COVID-19
Total Infusions (#)	1000	1009
Patients (#)	87	88
Gender	Number (%)	
Male	70 (80.5)	69 (78.4)
Female	17 (19.5)	19 (21.6)
Age	Years (SD)	
Median	56 (12.9)	56 years (12.3)
Range	23-79 years	25-79 years

Figure 1: Overall Ibalizumab-uiyk Infusion Compliance

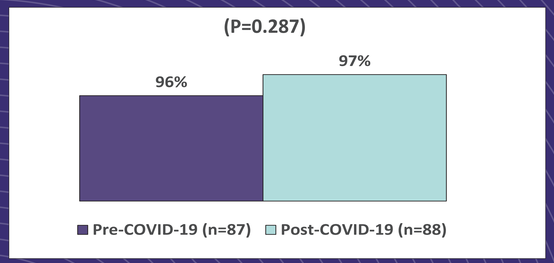


Figure 2: Missed Ibalizumab-uiyk Infusions

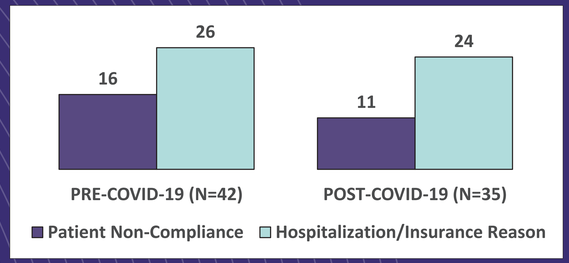


Figure 3: Discharge Rate

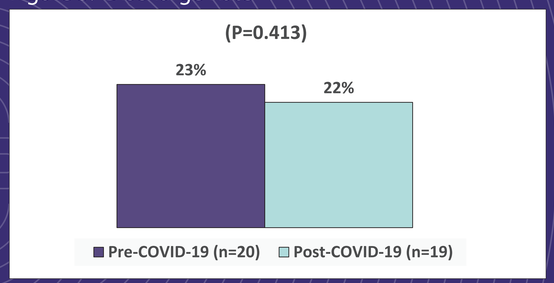
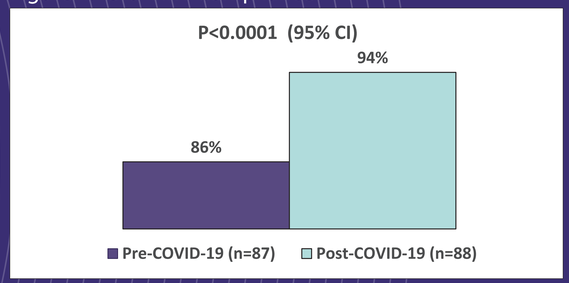


Figure 4: Oral ART Compliance



Results

Results of this study disproved the original hypothesis. Study patients are shown in Table 1. Overall compliance rate between Group A and Group B were 96% and 97% respectively, showing no significant difference (p=0.287) *[Figure 1]*. In Group A, 38% (n=16) and in Group B, 31% (n=11) of missed doses were due to patient non-compliance with the remaining missed doses due to hospitalization or insurance delay showing no significant difference (p=0.165) *[Figure 2]*.

Discharge rates for Group A and Group B were 23% (n=20) and 22% (n=19) respectively, showing no significant difference (p=0.413) *[Figure 3]*. Oral ART regimen compliance rates for Group A and Group B were 86% and 94% respectively, showing a significant increase (p<0.0001) *[Figure 4]*. Site of care showed 85% of infusions were administered in the home for both groups.

Discussion

It was anticipated there would be a decrease in compliance rate between pre-COVID-19 (Group A) and post-COVID-19 (Group B) treated patients. The results showed no significant difference in compliance rate of ibalizumab-uiyk infusions, discharge rate or site of care. An increase in compliance to oral ART regimen was observed in the post-COVID-19 cohort.

Conclusion

Results support utilization of a previously studied compliance-focused clinical care model for ibalizumab-uiyk maintained compliance rates in post-COVID-19 HIV-1 patients. Limitations include variations in electronic documentation for compliance on oral ART regimen.

References

[1]Trogarzo. Package insert. Theratechnologies; 2018.
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[3]Kalichman SC, Eaton LA, Berman M, Kalichman MO, Katner H, Sam SS, Caliendo AM. Intersecting Pandemics: Impact of SARS-CoV-2 (COVID-19) Protective Behaviors on People Living With HIV, Atlanta, Georgia. J Acquir Immune Defic Syndr. 2020 Sep 1;85(1):66-72. doi: 10.1097/QAI.0000000000002414. PMID: 32530862; PMCID: PMC7447002.
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