Case: **Successful Viral Suppression Using a Fully Injectable ART Combination Therapy of Ibalizumab + Cabotegravir/Rilpivirine in an HIV+ Patient with Malabsorption**

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Introduction

Malabsorption

- Malabsorption in patients with HIV (PWH) can lead to decreased antiretroviral (ARV) drug exposure which may induce viral failure and emergence of resistance mutations[1]
- When treating PWH with malabsorption, it is important to avoid oral administration of antiretroviral therapies (ARTs) and switch them to parenteral agents, which bypass the gastrointestinal system

Ibalizumab

- Ibalizumab (IBA) was approved in the US in 2018 as the first long-acting antiretroviral monoclonal antibody for HIV-1 treatment
- IBA is a CD4-directed post-attachment HIV-1 inhibitor that is indicated, in combination with other ARVs, for the treatment of HIV infection in heavily treatment-experienced adults with multidrug resistant (MDR) HIV-1 infection failing their current ARV regimen
- IBA is administered through intravenous injections (IV) every 2 weeks, making it long-lasting and ideal for patients with malabsorption[2]
- Other ARVs can be used in combination with IBA such as cabotegravir/rilpivirine which is also a long-lasting injectable therapy[3]

Patient History

Demographics and HIV History

- The patient is a 56-year-old white male diagnosed with HIV in 1999
- CD4 nadir of 38 cells/mL in 2008

Key Clinical Challenges

- The patient had a complex history of sigmoid colon rupture, which required sigmoid resection. His resection was complicated by small bowel intussusception and ischemic bowel, leading to further resection of 3 feet of small intestine
- Patient reported undigested ART tablets in their stool leading to suspected malabsorption
- There were also some adherence concerns with his ART
- The key challenge was to bypass oral ART and find a fully injectable regimen to achieve viral suppression

Patient History *(cont.)*

Medical History

Diagnoses

- Bipolar disorder
- Erosive esophagitis
- *Pneumocystis* pneumonia
- *Giardia* infection
- Hepatitis C with sustained virologic response (SVR) in 2017

Physical Exam

- Complaints of worsening diarrhea with significant weight loss over several years
- Continued to state his pills were passing through undigested

ARV Resistance Data

- Resistance testing identified significant resistance to nucleoside reverse transcriptase inhibitors (NRTIs)

Laboratory Values and ARV Regimens Pre- and Post-Fully Injectable Therapy

Table 1: Patient's ARV History (new drugs in **bold**)

Date	Viral load (copies/mL)	CD4 count (cells/mm^3)	Regimen
Baseline	500-1000	-	ETR/MVC/3TC/RAL
03/2019	**Ibalizumab (IBA) Added to Current Regimen**		
07/2019	252	227	**IBA** + ETR/MVC/3TC/RAL
12/2020	151,000	175	IBA + ETR/MVC/3TC/RAL
07/2021	**Oral ART Stopped and IM Cabotegravir/Rilpvirine (CAB/RPV) Added to IBA**		
10/2021	170	200	IBA + **CAB/RPV**
02/2022	41	142	IBA + CAB/RPV

3TC=lamivudine, ART=antiretroviral therapy, CAB=cabotegravir, ETR=etravirine, IBA=ibalizumab, IM=intramuscular, MVC=maraviroc, RAL=raltegravir, RPV=rilpivirine

Patient Outcomes and Conclusions

- Ibalizumab and cabotegravir/rilpivirine were selected instead of oral ART due to their parenteral administration and bypass of the gastrointestinal system
- This case report presents the favorable outcome of ibalizumab combined with cabotegravir/rilpivirine in one patient with MDR HIV-1 infection with adherence and malabsorption concerns

1. Department of Health and Human Services, ARV Guidelines, Jan 2022. Accessed April 20th, 2022. 2. TROGARZO™ prescribing information. 2018. https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/761065lbl.pdf accessed April 19th, 2022. 3. CABENUVA prescribing information. 2021. https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/212888s000lbl.pdf accessed April 19th, 2022