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Viral blips in patients with Intestinal bowel syndrome (IBS): clinical case observation. Is dolutegravir plus lamivudine sufficiently protective against the risk of viral escape?

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Background

- In patients with irritable bowel syndrome, microbial translocation has been shown to activate the immune defenses of the GALT, which is the main viral reservoir in HIV individuals.
- Dysbiosis and GALT activation could lead to viral escape phenomena and increase the risk of worsening chronic inflammation.
- There is no data on the risk of inflammatory marker activation and viral blips in individuals with chronic inflammatory bowel disease undergoing therapy with dual therapy dolutegravir/lamivudine (DTG/3TC) compared to triple therapy (BIC/TAF/FTC).

Methods

- We studied 9 HIV-infected patients over the age of 50 who were receiving regular follow-up at the Clinic of Infectious and Tropical Diseases at ASST Spedali Civili of Brescia and reported symptoms related to IBS.
- We evaluated potential changes in metabolic profile (blood sugar levels, cholesterol, triglycerides/high-density lipoprotein cholesterol ratio, TG/HDL), viroimmunological status, frequency of viral blips, and inflammatory markers (Neutrophil-to-lymphocyte ratio, NLR, platelet to lymphocyte ratio, PLR, beta-2-Microglobulin, ferritin, and relative monocyte count).

Results

- Nine patients with newly reported IBS symptoms during the visit were included in the case series: 7 (77.77%) men with a median age of 56 years (IQR 11.5) and a mean Charlson Comorbidity Index of 5.1 (SD 2.62).
- 8 patients reported recent pathological or stressful events: 1 bladder neoplasia, 2 diffuse joint pain, 2 exertional dyspnea, 2 psychological trauma, and 1 elevation in liver enzymes.
- 6 patients were on DTG/3TC therapy, 2 on BIC/TAF/FTC, and 1 on DTG+TAF/FTC. All patients showed good compliance and viroimmunological status at baseline.
- A decrease in CD4/CD8 ratio was observed in all patients during the event, with a mean reduction of 0.16, and 5 of those on DTG/3TC therapy experienced a viral blip.
- Changes in metabolic profile, including an alteration in TG/HDL ratio in 8 patients, N/L ratio in 1 patient, and PLR in 1 patient, were noted.
- In terms of inflammation, 5 patients had an elevated relative monocyte count, with no other alterations in inflammatory markers reported.
- A switch to BIC/TAF/FTC therapy was proposed for 3 patients based on their CD4/CD8 ratio and viral blips, which resulted in an improvement in CD4/CD8 ratio and undetectable viral load in subsequent tests.

Conclusions

- The observation of 9 IBS subjects revealed that during stressful events, inflammatory markers were altered with a decrease in the CD4/CD8 ratio.
- In patients on DTG/3TC therapy, viral blips occurred, which resolved after switching to BIC/TAF/FTC.
- This case series demonstrates the potential utility of analyzing the intestinal microbiome to assess the risk of viral escape and the limitations of DTG/3TC therapy in controlling inflammaging and CD4/CD8 ratio reduction, potentially leading to reservoir activation.

N°	Sex	Age	CCI	IBS	TG/HDL	NLR	PLR	Ferritin	Monocitosis	ΔCD/CD8	cART	Blips	Switch	Outcome
1	F	49	2	1	1	1	0	0	1	0.8	DTG/3TC	1	0	NA
2	M	65	5	1	1	0	1	0	0	1.5	DTG/3TC	1	1	↑CD4/CD8
3	F	57	4	0	0	0	0	NA	1	0.54	DTG/3TC	1	1	↑CD4/CD8
4	M	71	9	NA	1	0	0	0	1	0.54	DTG/3TC	0	0	NA
5	M	39	1	1	1	0	0	NA	0	0.42	BIC/TAF/FTC	0	0	NA
6	M	56	5	1	1	0	0	NA	1	0.63	BIC/TAF/FTC	0	0	NA
7	M	51	7	1	1	0	0	0	0	0.8	DTG/3TC	1	0	NA
8	M	56	5	1	1	0	0	NA	1	0.91	DTG+TAF/FTC	1	1	VL < 20 cp/mL
9	M	58	8	0	1	0	0	NA	1	0.56	DTG/3TC	1	0	NA

Table 1 – Characteristic of the patients. Abbreviations: CCI, Charleson Comorbidity Index; IBS, Inflammatory bowel disease; TG/HDL, triglycerides/high-density lipoprotein cholesterol ratio; NLR, Neutrophil-to-lymphocyte ratio; PLR, Platelet-to-lymphocyte ratio; cART, combined antiretroviral therapy; VL, viral load; DTG, dolutegravir; 3TC, lamivudine; BIC, bictegravir; TAF, tenofovir alafenamide; FTC, emtricitabine; 1, higher than normal value;