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New lipid lowering agents are a good option for archive lipid goal in HIV subjects?

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Introduction/Summary

- Combination antiretroviral therapy has increased the life expectancy of HIV-infected individuals transitioned from a fatal disease to a manageable chronic condition[1].
- Patients receiving long-term cART remain at higher risk for major CVD than uninfected individuals and dyslipidemia is a major risk factor [2–3].
- If lipid goals are not achieved despite lifestyle modification and cART switching ,the use of lipid-lowering medications must be considered.
- Bempedoic acid inhibits ATP citrate lyase in the cholesterol synthesis.CLEAR trials have shown safety and efficacy with long term administration of this drug,with significant improvements inflammatory markers[4 5].
- Another new option is Inclisiran first-in-class,cholesterol-lowering small interfering RNA targeting PCSK9 mRNA and conjugated to GalNAc [6 7].
- The vast majority of patients at highest risk ASCVD fail to achieve the recommended LDL concentrations with statin monotherapy and require additional oral therapies daily or injectable therapies every 2 weeks.

Case

- We present the clinical case of a 62-years-old man with HIV infection and dyslipidemia in whom new hypolipidemic drugs were fundamental in achieving adequate LDL values to prevent cardiovascular events. He has been affected by HIV since 1999 and it was necessary to modify multiple ART lines due to virological failure,now with TAF+FTC+DRV/c.He was already on hypolipidemic therapy with pravastatin and ezetimibe,with 29,4% Framingham Risk Score and 67,6 % D:A:D risk score.
- Despite failure to reach the target, the patient does not tolerate other statins(muscle pain). An episode of NSTEMI in March 2023 complicated the clinical course. To reduce LDL values, the previous therapy was suspended with the introduction of atorvastatin and ezetimibe. The onset of severe myalgias in the lower extremities, led to a further therapeutic switch and rosuvastatin+ezetimibe were introduced.
- The patient never reached the LDL target goal and did not tolerate statins,so we decided to try new therapeutic change introducing bempedoic acid/ezetimibe combination therapy.

Results

- One month after there was an important change on Framingham and DAD score; however, in order to achieve adequate target values of LDL we decided to add inclisiran,
- After three months we recalculate Framingham risk score getting 21.6 % and DAD score 40,4%, so we finally achieve target LDL values with contemporary increase in HDL during co-administration the patient remained persistently viro-suppressed

Figure 1 **LDL Trend**

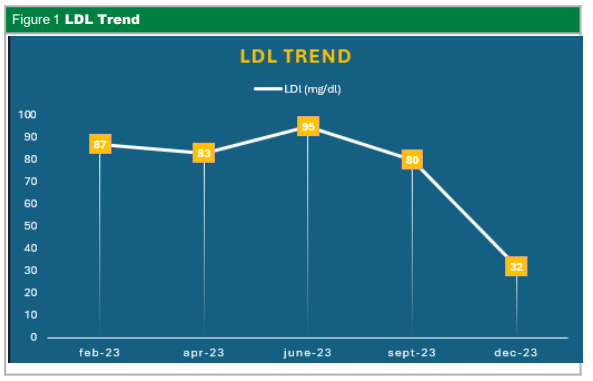

Table 1 **Framingham Risk Score (10 years)**

	Feb 2023	Apr 2023	June 2023	Sept 2023	Dec 2023
Gender	M	M	M	M	M
Age	62	62	62	62	62
HDL cholesterol	38	34	55	41	37
Total Cholesterol	162	164	181	174	101
Smoker	No	No	No	No	No
Systolic BP	150	130	125	150	125
BP therapy	Yes	Yes	Yes	Yes	Yes
Diabetes	No	No	No	No	No
FRAMINGHAM RISK SCORE (10 y)	29,4%	25,3	21,6	29,4	21,6

Table 2 **D:A:D Score (10 years)**

	Feb 2023	June 2023	Dec 2023
Age	62	62	62
Gender	Male	Male	Male
Previous smoker	No	No	No
Smoker	No	No	No
Family CVD history	No	No	No
Diabetes	No	No	No
Abacavir?	No		
PI exposure	15	15	15
NRTI exposure	17	17	17
CD 4+ count	928	1010	1379
Systolic BP	150	125	125
Total Cholesterol	162	181	101
HDL Cholesterol	38	55	37
D:A:D CVD 10 y	67,6%	54%	40,4%

Conclusions

- These drugs represent new avenues for prevention and treatment of CVD.The main limitation of literature's meta-analysis is related to the relatively small number of patients involved in the studies.
- This is the first report on the use of bempedoic acid and inclisiran in the HIV population which shows how the new options are well suited to the HIV positive population and represent a valid option to reach therapeutic targets.

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