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HIV treatment with Maraviroc: forgotten, not needed or still useful? - Results from the MIRROR study

Müller, A[1]; Bickel, M[2]; Herrmann, E[3]; Khaykin, P[4]; Müller, A[5]; Schüttfort, G[1]; Stephan, C[1]; Haberl, A[1]

[1]Hospital of the University Clinic Frankfurt, Department of Infectious Diseases, HIVCENTER, Frankfurt, Germany; [2]Infektiologikum Frankfurt Main, Germany; [3]Goethe University Frankfurt, Institute of Biostatistics and Mathematical Modelling, Germany; [4]MainFacharzt, Frankfurt Main, Germany; [5]Praxis im Nordend, Frankfurt, Germany

Background

The CCR5 antagonist maraviroc was approved in 2007 for pre-treated persons with HIV. Since then, the drug has never been clinically established to a large extend, mainly due to the required tropism test before starting treatment and twice daily dosing. However, maraviroc is still available and could be an option for pre-treated persons with HIV in terms of their resistance profile, tolerability issues or comorbidities. We investigated to what extent, in which persons and how successfully maraviroc has been used in participants of the Frankfurt HIV Cohort to date.

Methods

MIRROR was a retrospective, multicenter study. Primary objective: Virologic response, defined as viral load <50 copies at week 48 after switch to maraviroc. Secondary objectives: Reasons for treatment modification, ART prior to switch, maraviroc treatment interruptions, CD4-cell count at baseline and week 48. Observational period: October 2007 - December 2021.
Chi^2-test and Wilcoxon-Mann-Whitney-U-test were used to analyse variables influencing the virologic outcome.

Results

During the observational period 339 participants of the Frankfurt HIV Cohort were treated with maraviroc (236 cisgender male; 103 cisgender female)
Mean age at baseline: 47.0 years; mean time on ART: 11.3 years; history of AIDS: 29.2%;

Start of MRC (Oct 2007- Dec 2021): n=339

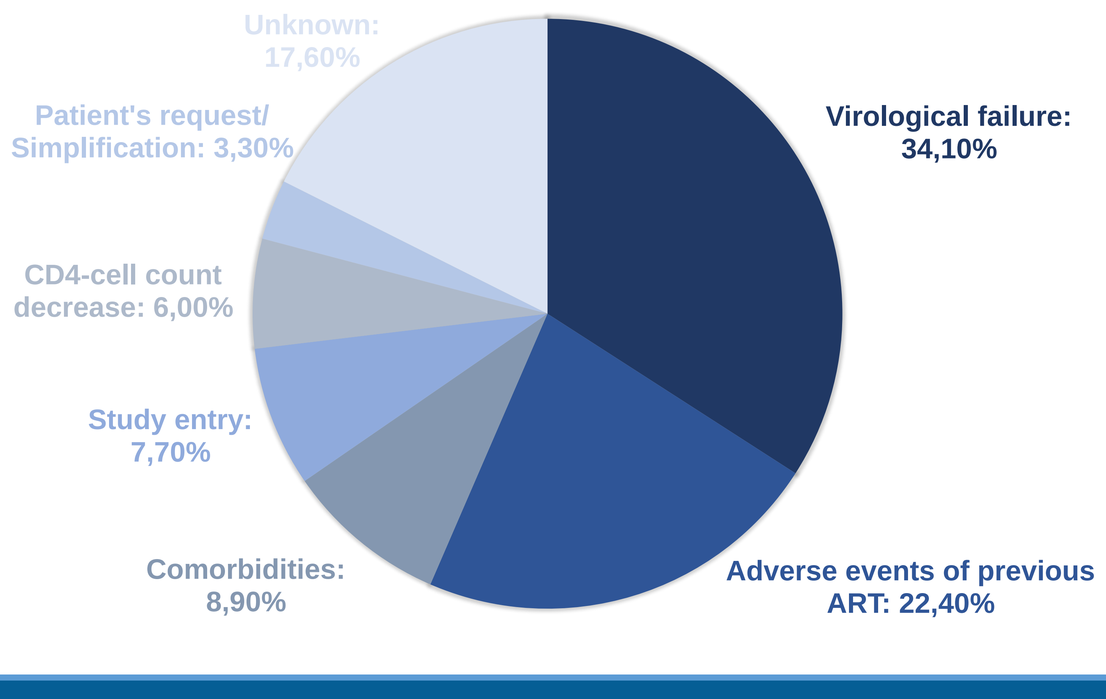
- VL<50 at week 48 (ITT): n=225 (66.4%)
- VL>50 at week 48 and/or MRC discontinuation before week 48: n=101 (29.8%)
  - Stop of MRC before week 48: n=52 (15.3%)
  - Virological failure at week 48: n=49 (14.5%)
- No data available: n=13 (3.8%)

→ Virologic response in study participants who reached week 48 with available data (As-treated analysis): n=225/274=82.1%

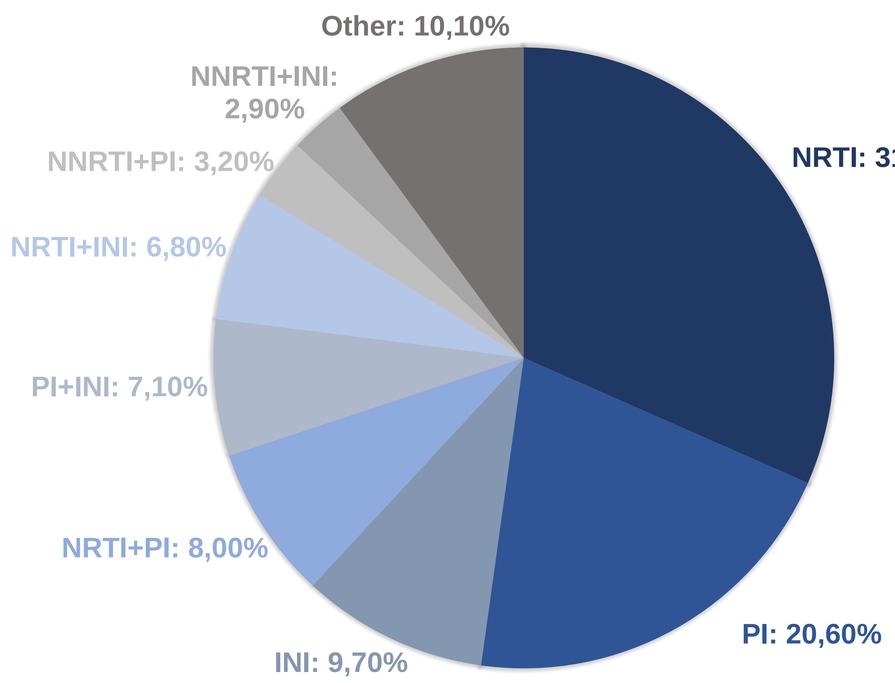
→ **Viral load <50 copies (Intention-to-treat analysis): 151/339 (44.5%) at baseline and 225/339 (66.4%) at week 48**
Viral load <50 copies (As-treated analysis): 130/274 (47.5%) at baseline and 225/274 (82.1%) at week 48

CD4-cell count:
Mean CD4-cell count at baseline: 515/µL
↑Increase (min 10%): 56.7%
= Stable: (>-10%, <+10%): 24.9%
↓ Decrease (-10%): 11.1%
(no data available: 7.3%)

REASONS FOR SWITCH TO MRC



COMPOSITION OF MRC CONTAINING ART

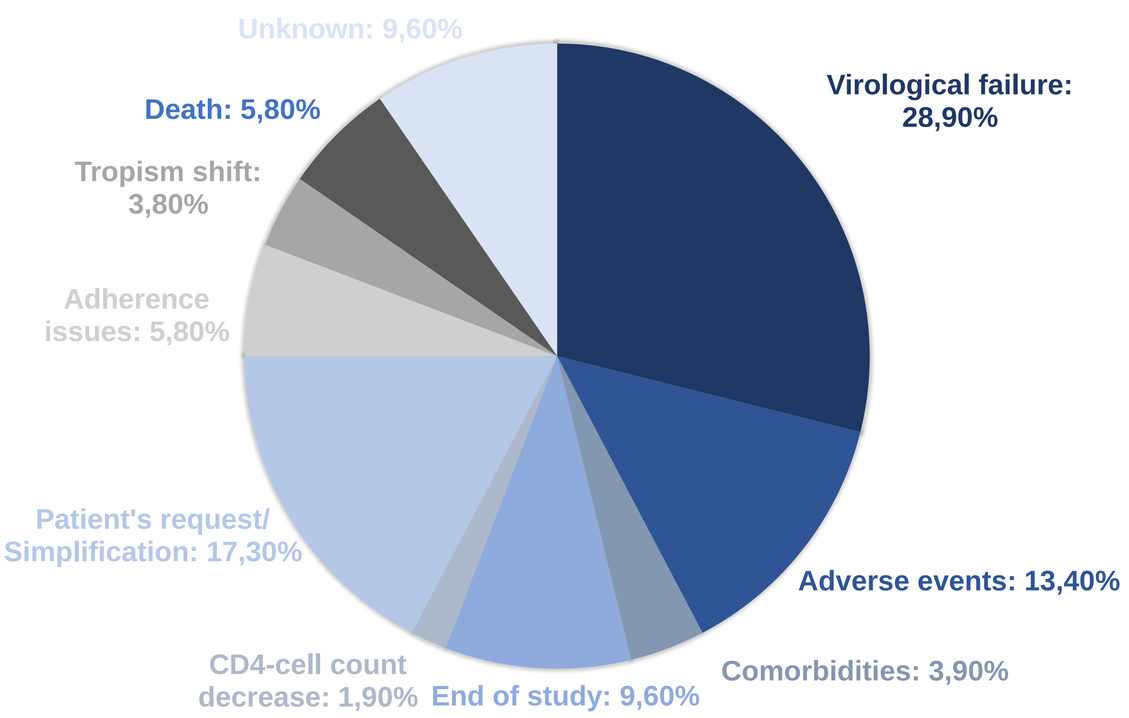


→ Mean number of drugs combined with MRC: 2.00
→ Mean number of drug classes combined with MRC: 1.46

Antiretroviral treatment before switching to MRC

73.5% of participants in the MIRROR study had experienced at least one virological failure during previous ART. The mean number of previous ART regimens was 6.47.

REASONS FOR STOP OF MRC BEFORE WEEK 48



Variables influencing the virologic response

- **Viral load at baseline:** p=0.001 (negative correlation with VL<50 at week 48)
- **CD4-cell count at baseline**: p=0.012 (the lower the CD4-cell count at baseline, the less likely VL<50 at week 48)
- **History of virological failure**: p=0.03 (if there was at least one virological failure in teatment history, the less likely VL<50 at week 48)
- **Number of drugs combined with MRC**: p=0.04 (negative correlation with VL<50 at week 48)

Conclusion

→ Results from the MIRROR study demonstrate that even in the era of integrase inhibitors and long acting antiretroviral drugs the CCR5 antagonist maraviroc can still be considered as part of a switch regimen in heavily pre-treated patients whose antiretroviral treatment poses particular challenges due to resistance, intolerance or comorbidity issues.

Corresponding author: andr.mueller@med.uni-frankfurt.de