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# Single Tablet Regimens do not Necessarily Translate into More Durable HIV Treatments

B Trottier, N Machouf, R Thomas, S Lavoie, S Vezina, M Boissonnault, E Huchet, D Longpré, L Charest, D Legault, M Munos

Clinique médicale l'Actuel, Montréal, Canada

# Background

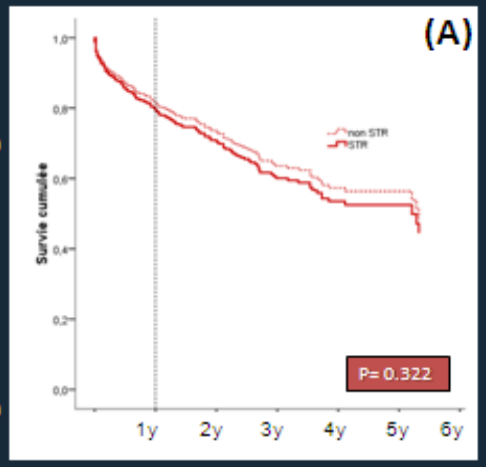
In recent studies, Single Treatment Regimen (STR) have been associated with some better clinical outcomes:

- ↑ adherence
- ↓ virological failure
- ↓ hospitalization
- ↓ cost of health related problems

# Methods

- Clinic-based, observational, retrospective study
- Inclusion: all patients starting any of the 4 recommended 1st regimens since 2007 : **TDF/FTC/EFV** as an STR, or any of the following non-STR: **2NRTI +** either **RAL, ATV/r,** or **DRV/r**
- Exclusion: switches for simplification & patients in a vaccine trial
- Primary endpoint: time until discontinuation of the 1st regimen (backbone change allowed)
- Secondary endpoint: time to loss of virological response at any time after start of 1st regimen. Switch allowed, D/C= failure
- Statistical analyses: Cox proportional hazards models. Controlling for: age, gender, baseline CD4, baseline HIV-RNA, HIV risk factor and calendar year of treatment initiation

# RESULT-1: Durability



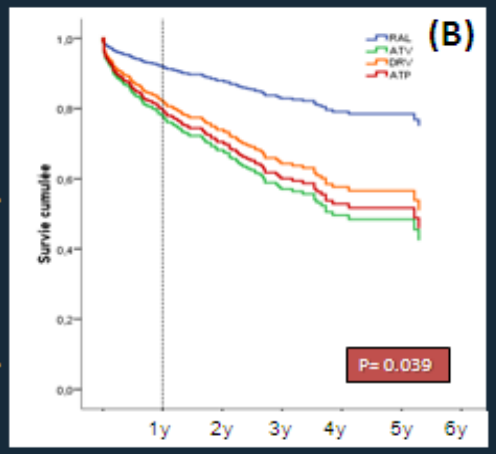




Figure 2. Proportion of patients continuing the first-line regimen

*Durability of the first line regimen*
*(A) stratified by STR vs non-STR*
*(B) stratified by the 3rd ARV used*

Table 3. Predictors of discontinuation of the first-line regimen

| Parameters in the model | | Hazard Ration (95% CI) | |
|---|---|---|---|
| | | Simple Model | Adjusted Model |
| non-STR (vs STR) | | 0.86 (0.64-1.17) | |
| Third agent: | ATP | *Ref* | *Ref* |
| | RAL | 0.45 (0.25-0.82) | 0.36 (0.18-0.72) |
| | ATV | 0.96 (0.69-1.35) | 1.21 (0.80-1.81) |
| | DRV | 0.99 (0.65-1.51) | 0.99 (0.62-1.59) |
| Year of ARV initiation | | 1.13 (1.01-1.25) | 1.21 (1.06-1.38) |
| IDU | | 1.66 (0.99-2.77) | 2.14 (1.18-3.86) |
| Age | | 0.99 (0.97-1.01) | 0.99 (0.97-1.01) |
| Men | | 0.87 (0.51-1.47) | 0.90 (0.50-1.62) |
| VL@ARV1 > 100K | | 1.31 (0.97-1.78) | 1.40 (1.03-1.91) |

*Univariate and multivariable Cox proportional hazards model of predictors of stopping first-line regimen*

Main reason for D/C: Side effects & toxicity

# RESULT-2: Virologic control

## Table 4. Predictors of Loss of Virological Response (LOVR)

| Parameters in the model | | Hazard Ration (95% CI) | |
|---|---|---|---|
| | | Simple Model | Adjusted Model |
| non-STR (vs STR) | | 1.85 (1.15-2.97) | |
| Third agent: | ATP | *Ref* | *Ref* |
| | RAL | 1.11 (0.53-2.36) | 1.04 (0.45-2.37) |
| | ATV | 2.03 (1.22-3.37) | 2.28 (1.27-4.12) |
| | DRV | 2.10 (1.16-3.80) | 2.09 (1.09-3.99) |
| Year of ARV initiation | | 1.02 (0.88-1.17) | 1.12 (0.95-1.32) |
| IDU | | 2.70 (1.50-4.84) | 2.57 (1.31-5.09) |
| Age | | 0.99 (0.98-1.02) | 0.99 (0.97-1.01) |
| Men | | 0.64 (0.34-1.19) | 0.79 (0.39-1.59) |
| VL@ARV1 > 100K | | 1.28 (0.85-1.93) | 1.40 (0.92-2.15) |

*Univariate and multivariable Cox proportional hazards model of predictors of time to loss of Virologic response or treatment interruption*

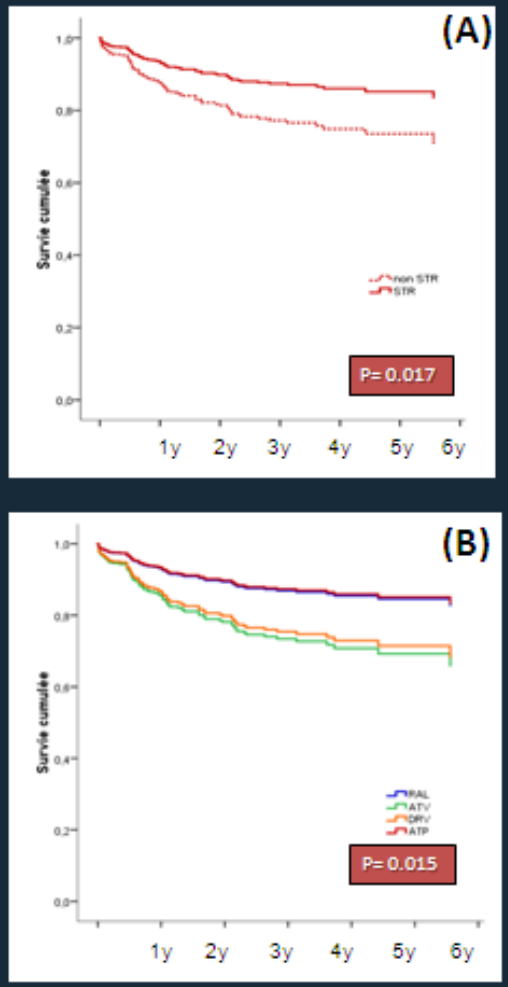



Figure 3. Proportion of patients maintaining virological response

*Time to loss of virological response*
*(A) stratified by STR vs non-STR*
*(B) stratified by the 3rd ARV used*

# Conclusion

- STR does not provide a more durable 1st line treatment
- Even with a higher number of pills and multiple doses, a **2NRTI + RAL** regimen is **more durable** than ATP (STR) or other combinations (either ATV/r or DRV/r)
- The main reason for 1st line discontinuation/switch remain the adverse drug effects, very few virological failure were observed
- However, Initiating ARV treatment with an **STR** or a **RAL-based treatment** seems to provide a **longer virological control** compared to other non-STR regimens studied