



HIV-1 Low level viremia predicts virological failure in first-line and second-line ART experienced individuals in India



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BACKGROUND

- HIV-1 plasma viral load (pVL) is the key indicator to monitor the response to combination antiretroviral therapy.
- pVL of <1000 copies/mL is considered as the threshold for virological suppression (VS) by national (India) and WHO guideline.
- A subset of people who have attained VS experience low-level viremia (LLV- pVL 40-999 copies/mL) and its overall impact on clinical outcome is largely unknown.

METHODS

- We conducted a longitudinal retrospective analysis of 3498 participants visiting YRGCARE, Chennai, India between 2013-2018.
- The participants were on ART for ≥ 6 months with ≥ 2 pVL measurements. The participants were stratified as presented in figure 1
- Multivariable Cox regression estimate was used to find the association with VF

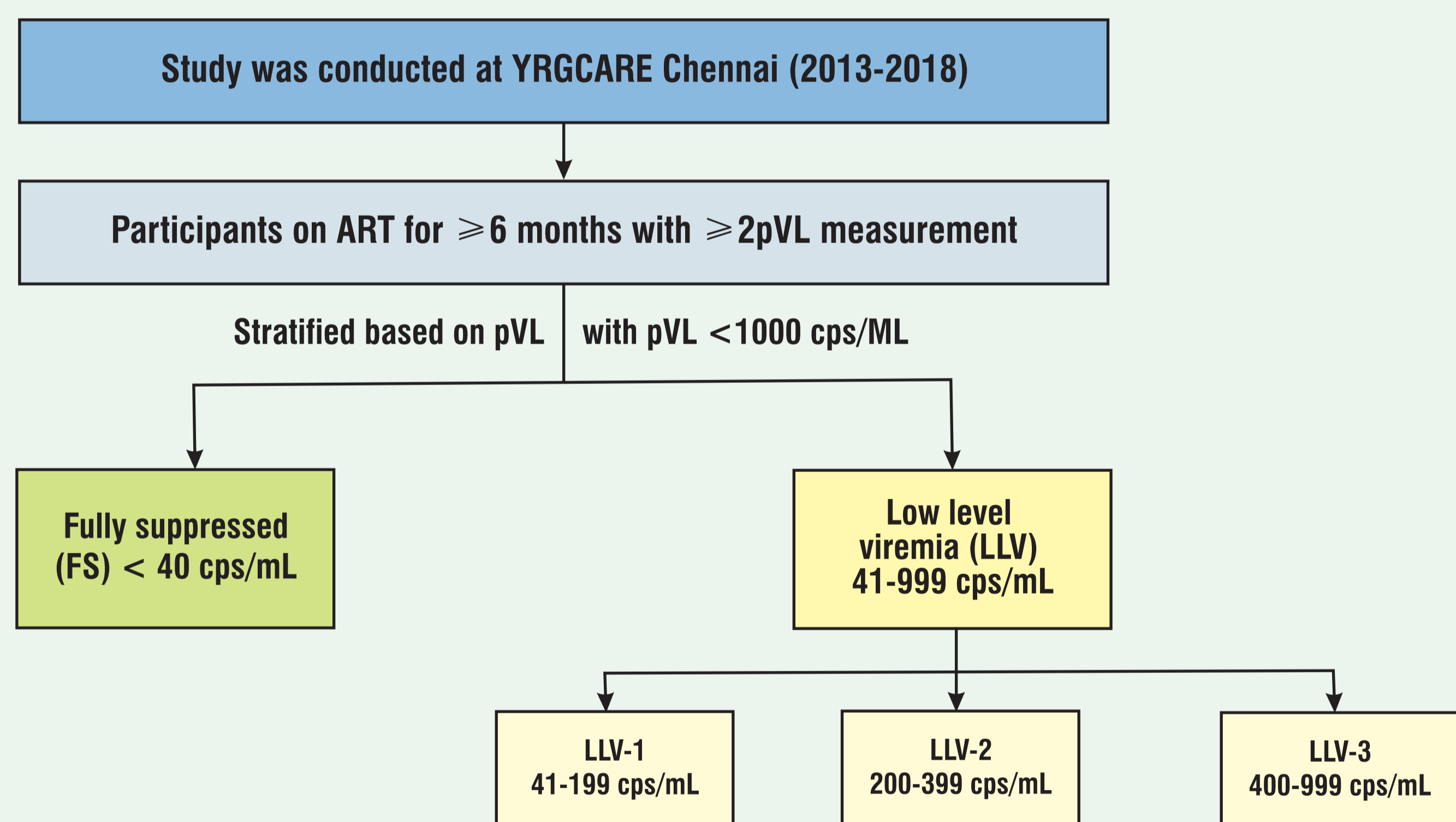
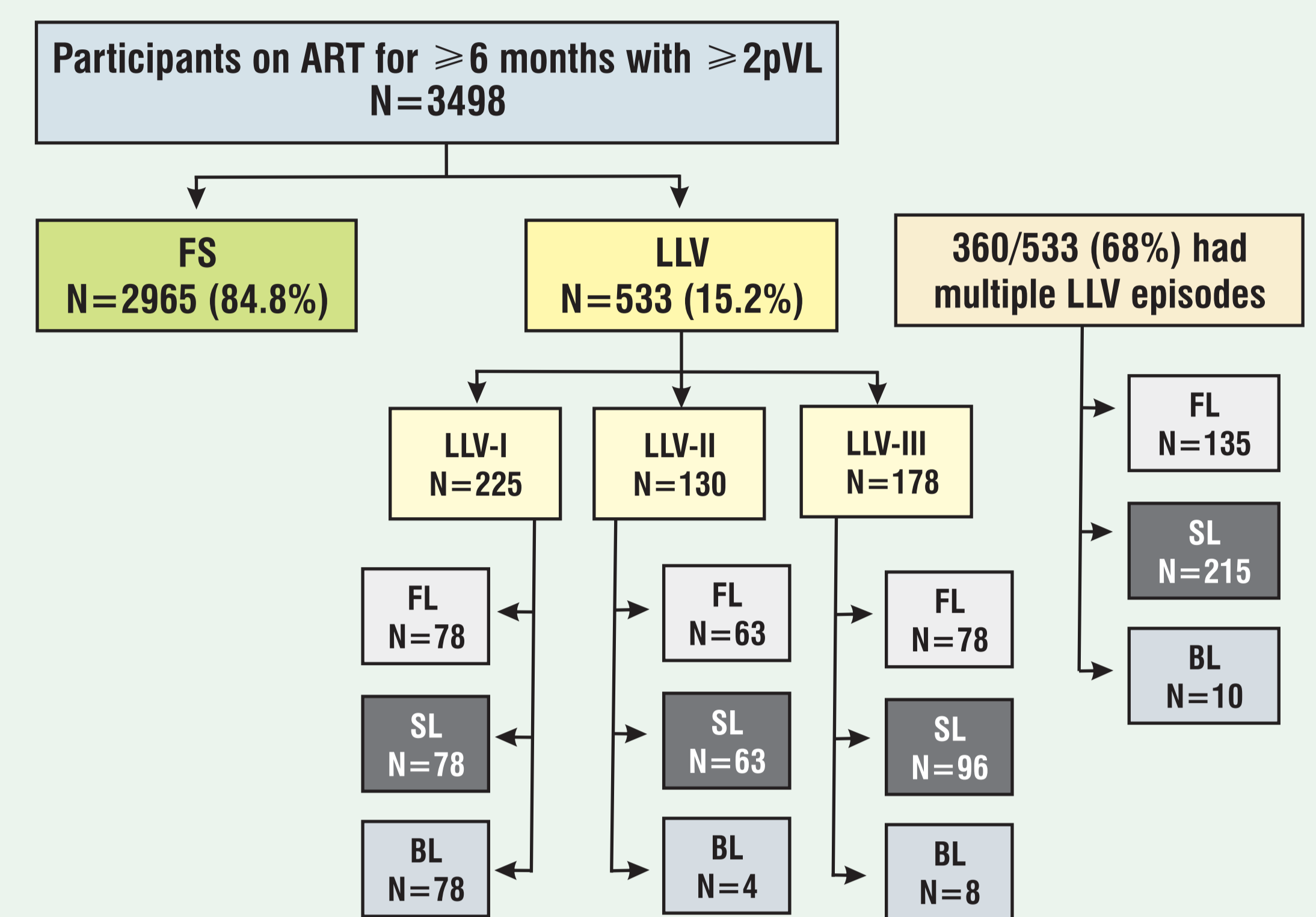


Figure 1: The study schema/participant stratification

RESULTS

Table 1: Demographic characteristics of study participants

Characteristics	Study participants (n=3498)
Age	44yrs (IQR 38-50 yrs)
Sex	
Male	2099 (60%)
Female	1399 (40%)
ART class	
First-line ART	2574(73.6%)
Second-line ART	865 (24.7%)
Both first & second-line	59 (1.7%)
Duration of follow-up	111.3 wks. (IQR 63.4-170 wks)



FL - on first line ART, SL- on second line ART, BL - on both first & second line ART

Figure 2: Low level viremia and its characteristics

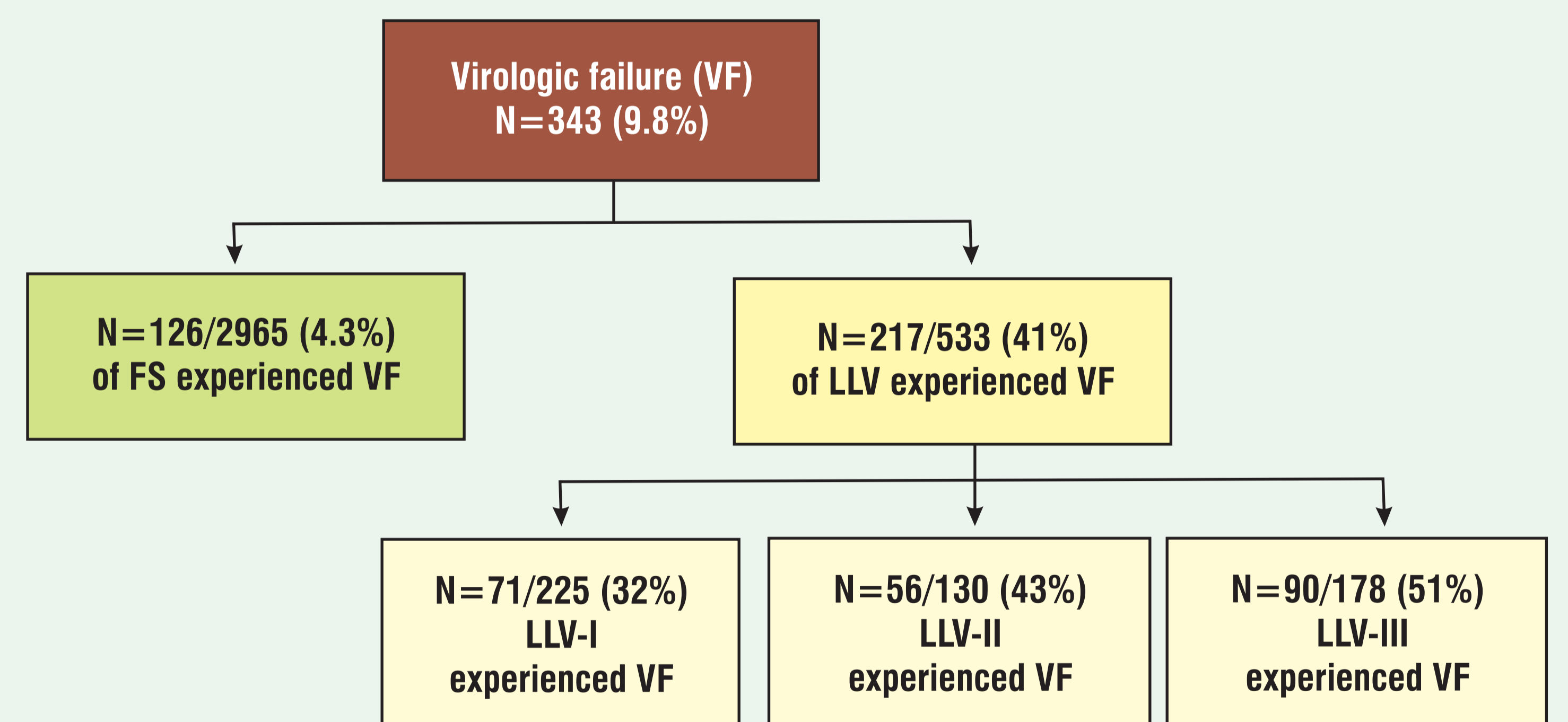


Figure 3: Virologic failure and Low-level viremia

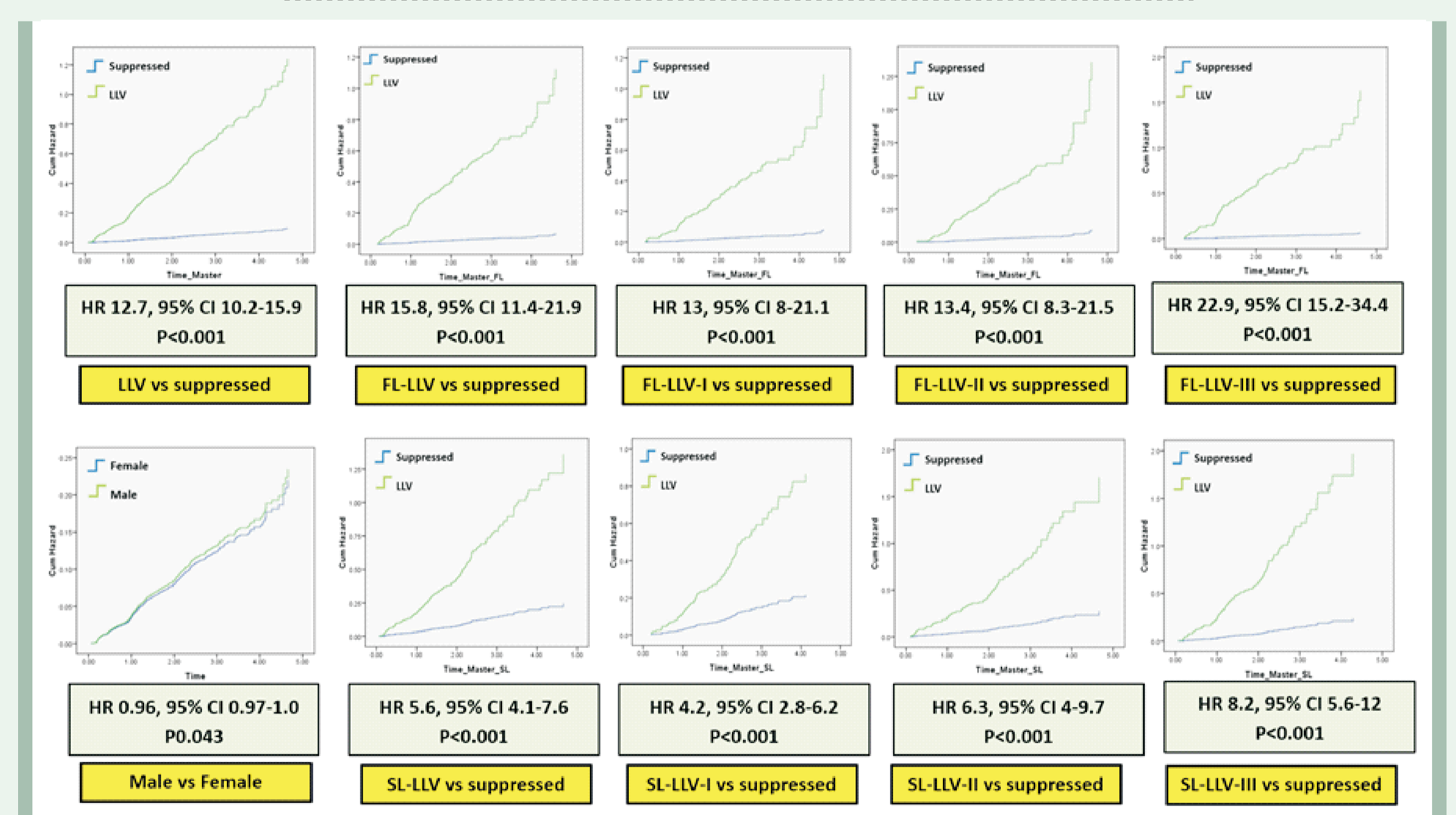


Figure 4: Multivariable Cox regression analysis showing factors associated with virologic failure

CONCLUSION

- LLV was associated for higher risk of VF.
- Close monitoring of individuals experiencing LLV may help in early identification of VF, thus preventing drug resistance.