First-line boosted protease inhibitor regimen remains effective after virologic failure

Boosted protease inhibitor and nucleoside reverse transcriptase inhibitors (NRTIs) is a regimen that is often used as a first line treatment regimen as it has the advantage of rarely resulting in the emergence of resistant virus should virologic failure occur. Although the best approach following virologic failure has remained unclear. Therefore in this study investigators from the Harvard School of Public Health retrospectively examined outcomes 24 weeks after virologic failure of 209 patients on first-line protease inhibitor/ritonavir plus two NRTIs. The median viral load and CD4 count at the time of virologic failure were 8000 copies/ml and 246 cells/mm3, respectively. Of these participants two-thirds remained on their first-line regimen after virologic failure. Follow-up, 24 weeks after virologic failure, showed that 67% of patients remaining on their first-line combination now had a viral load below 400 copies/ml compared to 72% of participants who changed therapy. The difference was non-significant. Restricting analysis to patients with no resistance (protease inhibitors, NRTIs and NNRTIs) showed that rates of virologic suppression were identical between people who remained on first-line treatment and people who switched therapy. For people who remained on their initial treatment regimen, the factors associated with subsequent achievement of a viral load below 400 copies/ml were a viral load below 10

000 copies/ml at the time of treatment failure (and a viral load below 400 copies/ml at any time before virologic failure emerged. Additionally the chances of achieving virologic suppression were also increased by high levels of adherence. Thus concluding that overall the findings suggest that if no or limited drug resistance is detected at virologic failure on a first-line protease inhibitor/ritonovir containing regimen, patients remaining on the same regimen after virologic failure coupled with strategies to improve adherence could be a reasonable and effective approach to achieving virologic suppression.

Zheng, Y. et al. 2014. Antiretroviral Therapy and Efficacy after Virologic Failure on First-line Boosted Protease Inhibitor Regimens. *Oxford Journal.*