ORAL ABSTRACTS

536. Systematic Review and Meta-Analysis of Randomized Controlled Trials (RCTs) Comparing Initial Non-Nucleoside Reverse-Transcriptase Inhibitor (NNRTI)- versus Ritonavir Boosted Protease Inhibitor (PI/r)-based Anti-Retroviral Therapy (ART)

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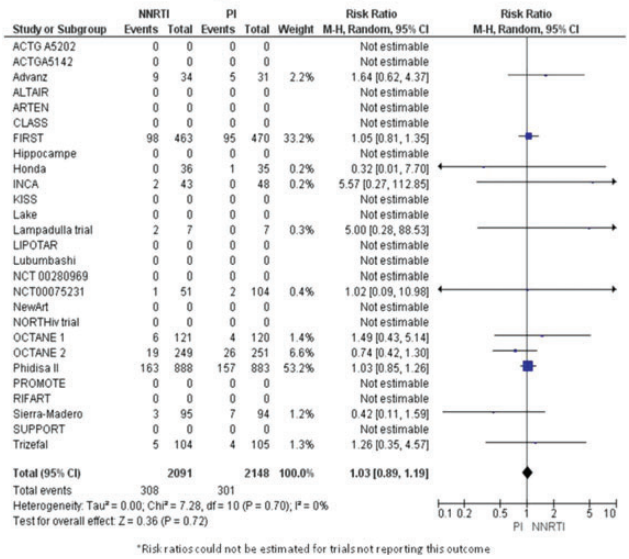
Background: Results. from RCTs suggest that NNRTIs may cause faster virological suppression and PI/r may recover more CD4 cells. It is unknown if differences in immunological and virological endpoints are clinically relevant, as individual RCTs have not been powered to compare clinical outcomes.

Methods. We searched established databases to identify RCTs comparing NNRTI- vs PI/r-based initial ART. A meta-analysis using random-effects model calculated risk ratios (RRs) or mean differences (MDs), as appropriate. The primary endpoint was death or progression to AIDS. Secondary endpoints were: death, progression to AIDS and treatment discontinuation. Results were from intention-to-treat analyses. We calculated RR of virological suppression and MD for increase of CD4 cells at week 48, a time point at which these data were available in most RCTs.

Results. We included 27 RCTs with 9515 patients. Of 4848 patients assigned to an NNRTI, 3636 received efavirenz and 1212 nevirapine. Of 4667 patients on PI/r, 2661 received lopinavir, 1498 atazanavir and 508 another PI/r. Death or progression to AIDS occurred in 308 patients in the NNRTI arm and 301 in the PI/r arm (RR: 1.03 [95%CI: 0.89-1.19], 11 RCTs; n = 4239), death in 256 patients in the NNRTI arm vs 249 in the PI/r arm (1.03 [0.87-1.21]; 21 RCTs; n = 8671) and progression to AIDS in 193 patients in the NNRTI arm vs 184 in the PI/r arm (1.06 [0.87-1.29]; 10 RCTs; n = 4809) Overall treatment discontinuation (1.15 [0.96-1.38], 22 RCTs, n = 8703) and from toxicity (1.25 [0.87-1.79], 19 RCTs; n = 6685) were similar, but the risk of discontinuation due to RCT-defined virological failure was higher with NNRTI (1.89 [1.02-3.51], 15 RCTs; n = 5830). At week 48, there was no difference between NNRTI- and PI/r-based ART in virological suppression (RR: 1.03 [0.96-1.12], 13 RCTs; n = 4010) or increase of CD4 cells (MD: -6.95 cells [-16.32 to 2.42], 13 RCTs; n = 4010).

Abstract Figure: Death or Progression to AIDS*



*Risk ratios could not be estimated for trials not reporting this outcome

Conclusion. In a comprehensive meta-analysis of RCTs, we found no difference in clinical outcomes between subjects randomized to NNRTI- or PI/r-based initial ART. An individual patient data meta-analysis is warranted to investigate differences in adverse event profiles and the dynamics of immune recovery and virological suppression with individual NNRTI- or PI/r- based ART regimens.

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