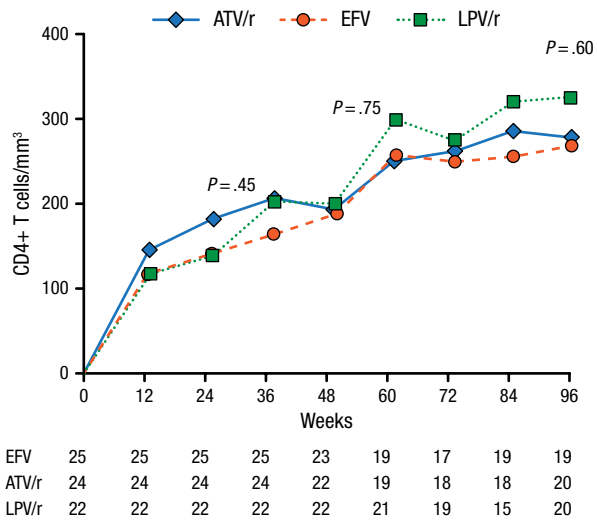
Figure 1. Median Increase in CD4+ T-Cell Count[a]



ATV/r, atazanavir/ritonavir; EFV, efavirenz; LPV/r, lopinavir/ritonavir.

[a]On-treatment analysis.

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The primary study outcome was the median increase in the CD4+ T-cell count at week 48. Secondary end points included the proportion of patients with plasma HIV-1 viral load < 50 copies/mL; the incidence of side effects; disease progression and death; and changes in the markers of immune activation and senescence, apoptosis, inflammation, bacterial translocation, and coagulation.

At baseline, participants (mean age 38 years; 82% men) had a median CD4 cell count of 34 cells/mm^3 and a median plasma viral load of 5.26 log^{10}/mL. After 96 weeks, all 3 treatments were associated with increases in CD4+ T-cell counts (+284 cells/mm^3 in the EFV arm, +295 in the atazanavir/ritonavir group, and +345 among those treated with LPV/r; Figure 1).

The percentages of patients achieving viral suppression on both the intention-to-treat and on-treatment analyses were similar (intention-to-treat 75%, 60%, and 58.6% and on-treatment 100%, 100%, and 90% for EFV, atazanavir/ritonavir, and LPV/r, respectively), as were decreases in the levels of inflammation, coagulation, and bacterial translocation markers. The incidence rate of adverse events was similar in the 3 groups; there were no deaths.

Additional studies are needed in this patient population for other first-line regimens such as those using other boosted PIs (eg, darunavir) or integrase inhibitors (eg, dolutegravir).

Compliance Higher With Once-Daily Antibiotic Administration vs Multiple Times a Day

Written by Maria Vinall

Matthew E. Falagas, MD, MSc, DSc, Alfa Institute of Biomedical Sciences, Athens, Greece, reported in a poster that better compliance to antibiotic treatment is achieved when an antibiotic is administered once daily compared with multiple times a day for the treatment of specific infections.

Data were obtained through a systematic search of the PubMed and Scopus databases for randomized, controlled antibiotic treatment trials. Compliance with antibiotic treatment was the primary outcome of this meta-analysis study. A total of 26 studies comprising 8246 patients were included in the analysis. The most common condition being treated in these studies was upper respiratory tract infection.

Among all patients (pediatric and adult), compliance was higher following once-daily dosing compared with BID, TID, or QID dosing (RR, 1.22; 95% CI, 1.11 to 1.34). These findings were consistent across study designs and treatment duration. Patients receiving an antibiotic once daily were also more compliant compared with patients receiving an antibiotic of a different class TID or QID (RR, 1.20; 95% CI, 1.12 to 1.28).

Children who received an antibiotic once daily were more compliant than those receiving the same antibiotic BID or TID (RR, 1.16; 95% CI, 0.93 to 1.44). Better compliance was also seen in children with BID vs TID dosing (RR, 1.10; 95% CI, 1.02 to 1.19) and with once-daily vs TID dosing (RR, 1.25; 95% CI, 0.94 to 1.68).

Adults who received an antibiotic once daily were more compliant than those receiving the same antibiotic BID or TID (RR, 1.09; 95% CI, 1.02 to 1.16). Better compliance was also seen in adults with once-daily vs TID dosing (RR, 1.31; 95% CI, 1.08 to 1.59).

When treating adults and children for specific infections and with specific classes of antibiotics, compliance is higher if the antibiotic administration is restricted to once daily rather than multiple times a day. Compliance with treatment regimens improves outcome and may reduce the rate of adverse events.