Table 1. Clinical Outcomes of Acute Bacterial Skin and Skin Structure Infections by BMI

	Clinical Response at 48-72 h (ITT)		Clinical Status at EOT (CE)	
BMI, kg/m^2	Dalbavancin (n = 659)	Vancomycin/Linezolid (n = 653)	Dalbavancin (n = 570)	Vancomycin/Linezolid (n = 545)
< 25	144/182 (79.1)	166/212 (78.3)	144/157 (91.7)	158/174 (90.8)
25 to < 30	195/239 (81.6)	164/199 (82.4)	189/207 (91.3)	155/163 (95.1)
≥ 30	186/231 (80.5)	190/240 (79.2)	184/206 (89.3)	189/208 (90.9)

Data presented in n/N (%).

BMI, body mass index; CE, clinically evaluable; EOT, end of treatment; ITT, intention to treat.

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Participants aged 18 to 85 years were randomly assigned to receive either of the following:

- 1 g of intravenous dalbavancin over a period of 30 minutes on day 1, followed by 500 mg intravenously over a period of 30 minutes on day 8, or
- 1 g (or 15 mg/kg of body weight) of intravenous vancomycin over a period of 120 minutes every 12 hours for at least 3 days, with an option to switch to 600 mg of oral linezolid every 12 hours to complete 10 to 14 days of therapy.

The primary end point was the cessation of the spread of infection-related erythema of the lesion at 48 to 72 hours and the absence of fever at 3 consecutive recordings every 6 hours in the intention-to-treat population.

The objective of the subgroup analysis was to evaluate the clinical effectiveness of dalbavancin for the treatment of ABSSSIs in patients who were obese (body mass index [BMI] ≥ 30 kg/m^2) relative to those who were overweight (BMI, 25 to 29.9 kg/m^2) and normal weight (BMI < 25 kg/m^2).

Efficacy of dalbavancin was assessed in the 3 weight groups by a categorical analysis of subgroups of patients stratified by weight bands or as part of a covariance analysis examining BMI as a continuous and categorical variable. Baseline demographics were similar in the three groups. Clinical outcomes by BMI are shown in Table 1.

Clinical success rates were similar in all 3 weight groups, suggesting that dalbavancin was an effective treatment option for patients who have skin infections and are obese, overweight, or normal weight.

Efavirenz-Based Therapy Effective in Highly Suppressed HIV-1–Infected Patients

Written by Maria Vinall

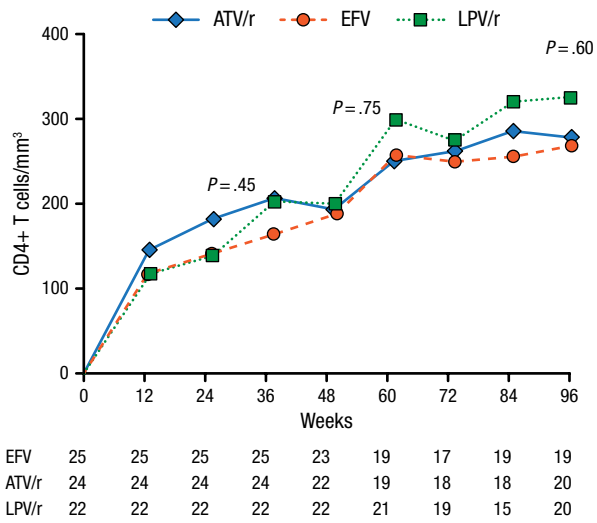
Final results of the ADVANZ-3 trial [NCT00532168], presented by Christian Manzardo, MD, PhD, Hospital Clinic-IDIBAPS, Barcelona, Spain, confirmed that efavirenz (EFV)-based therapy is appropriate for HIV-1–infected patients with very low CD4 T-cell counts and high plasma HIV-1 RNA levels, provided they are adherent to therapy and do not have transmitted drug-resistant mutations.

It is not known whether the type of combination antiretroviral therapy (cART) regimen (ie, a protease inhibitor [PI]–based vs nonnucleoside reverse transcriptase inhibitor–based regimen) impacts treatment outcomes in highly suppressed patients with HIV-1. In addition, only limited data exist concerning the effects of cART on bacterial translocation, inflammation, coagulation, and immune activation in patients with advanced HIV-1 infection.

The ADVANZ-3 trial was a randomized, controlled, open-label, multicenter phase 4 study to compare the immunological reconstitution and the virologic efficacy and safety of 3 different combinations of antiretroviral therapy given once a day. The study included antiretroviral-naïve, HIV-1–infected adults with very low CD4 cell counts (< 100 CD4 cells/mm^3) and no drug resistance mutations at baseline.

Participants were randomized 1:1:1 to EFV 600 mg QD (n = 29), atazanavir/ritonavir 300/100 mg QD (n = 30), or lopinavir/ritonavir (LPV/r) 400/100 mg BID (n = 30) in addition to tenofovir/emtricitabine QD for 96 weeks.

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.