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Oral presentation

O423 Risk of new AIDS-defining events in patients with advanced immunodeficiency during suppressive HAART: results from the German ClinSurv cohort

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Purpose of the study

Despite recent advances in the reduction of morbidity and mortality after the advent of HAART, a large number of HIV patients still present late with advanced immunodeficiency. In these patients the risk of developing AIDS-defining events (ADE) may depend on a solid immune reconstitution with immune-discordant responses being at higher risk. We aimed to determine risk factors for the development of ADE in patients who begin fully suppressive antiretroviral treatment with CD4 counts <200 cells/μl.

Methods

Data of 1,576 treatment-naive patients starting HAART after January 1, 1996 at a CD4 count <200 cells/μl were followed from the date of full viral suppression until virological failure, the occurrence of a new ADE, loss of follow-up or December 31, 2007, whichever occurred first. An adjusted Poisson regression model was used to analyze the incidence rate ratio (IRR) between immune-discordance (all CD4 counts <200 cells/μl) and immune-response (at least one CD4 count >200 cells/μl) in the first, second, and third year. In addition, a Cox model was fitted to analyze risk factors for a new ADE encompassing all available follow-up data.

Results

In the first year a total of 42 new ADE occurred with an IRR for immune-discordance of 5.57 (95% CI 2.96–10.48, p < 0.001) in the adjusted Poisson model. In the second (nine events) and third year (eight events) of viral control, a non-significant trend towards a lower influence of immune-discordance was observed (IRR 1.03, 95% CI 0.13–8.26, p = 0.98 and 2.02, 95% CI 0.25–16.41, p = 0.51, respectively). In the Cox model analyzing 3,633 person-years of follow-up, risk factors for development of a new ADE included the latest CD4 count below 50 cells/μl (HR 6.36,95% CI 2.53–15.95, p < 0.001) and CD4 counts between 50–100 cells/μl (HR 3.84,95% CI 1.70–8.68, p = 0.001). No significant influence of latest CD4 count above 100 cells/μl, CD4 count at initiation of HAART, sex, age, transmission risk, and AIDS-defining event prior to initiation of HAART was observed.

Conclusion

Immune-discordance is a risk factor for a new ADE while on HAART during the first year of suppressed viremia. After this time the incidence of ADE decreases dramatically even in patients with prolonged immunodeficiency. The risk is highest in patients who fail to increase CD4 counts to >100 cells/μl. Strategies to raise or maintain a CD4 count above at least 100 cells/μl could prevent most ADE in this patient group. See Figure 1.

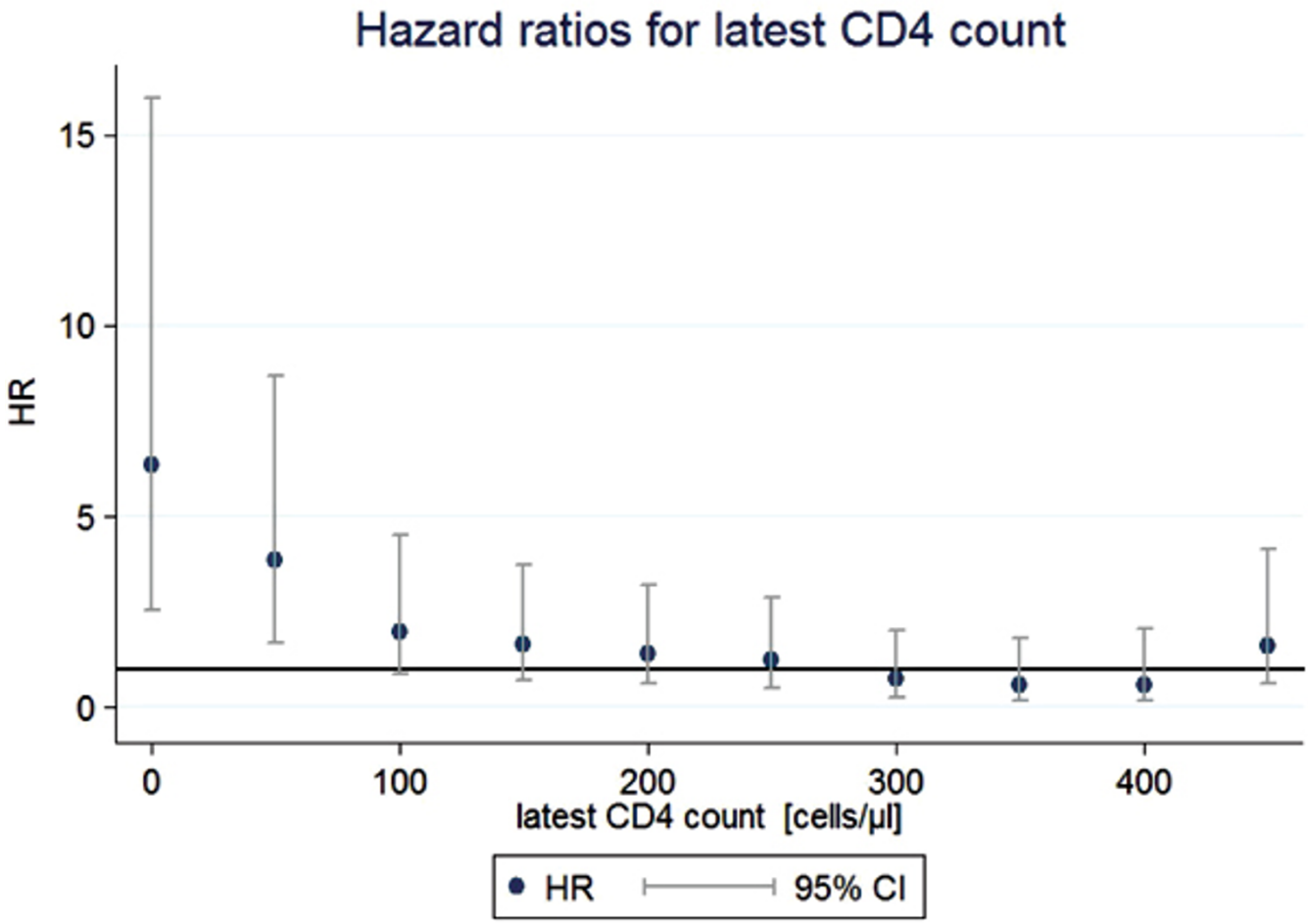

Figure 1
Hazard ratios for latest CD4 count.