Reviewer's report

Title: A Prospective Study Comparing Quantitative Cytomegalovirus (CMV) Polymerase Chain Reaction in Plasma and pp65 Antigenemia Assay in Monitoring Patients after Allogeneic Stem Cell Transplantation.

Version: 1 Date: 17 August 2006

Reviewer: Fausto Baldanti

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

"CMV disease" and "CMV organ localization" are used with the same meaning, which is not (see results, clinical outcome, p 7). "CMV organ localization" is the pathological demonstration of CMV infected cells in tissues of a given organ, while "CMV disease" refers to biopsy-proven organ involvement in the presence of specific clinical symptoms.

Correlation between antigenemia and plasma PCR appears gross, rather than fair-good or good. In particular, none of the dots in Fig. 1 appears even close to the regression line. The Authors should revise their statistics reporting r-e2 coefficient instead of r.

The results of this study point to a different kinetics of antigenemia and viral DNA in SCT. This observation has been reported in SCT and other transplant settings as well, indicating a better adherence of viral DNA levels in blood to the level of active viral replication. Although the Authors mention this aspect, they should develop this line of discussion (also by carefully revising the reference list which is missing key papers) instead of forcing a correlation between the two virologic parameters.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Any data not significantly different means equal. Thus, sentences like "pp65-positivity was earlier, although not significant than plasma PCR" (abstract) does not stand and must be removed. Was the study powerful enough to reveal all possible differences? Please, report how the sample size was calculated.

Kappa is sometimes 0.49 and sometimes 0.48; r is sometimes 0.496 and sometimes 0.503.

What about the outcome of the 3 pts with CMV organ localization? Why was the virus searched for in biopsy? Specific symptoms or occasional finding in biopsy performed to evaluate intestinal GVHD? Differentiating between bystander positivity and potential cause of disease is mandatory.

Acyclovir as "antiviral" prophylaxis? ACV is specific for HSV and VZV. It has also a moderate effect on CMV, but is not a pan-virus drug!

Kaplan-Meier is mentioned in M&M and no results are reported. Delete.

I'm not sure that the small numbers of pts in each group can support the analysis of incidence of positive pp65 and plasma DNA according to type of transplant.

Discretionary Revisions (which the author can choose to ignore)

Antigenemia and plasma PCR have been determined using commercially available and well established methods. Skipping the detailed description of the two techniques would shorten the paper without impairing the message.
What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes

Declaration of competing interests:
'I declare that I have no competing interests'