

## Monitoring of CMV DNA levels important for treatment of infected patients

It has been known for almost a decade that Ganciclovir treatment of cytomegalovirus (CMV) infections in solid-organ transplant recipients in most cases lead to increasing levels of CMV antigenemia (pp65 levels) but decreasing or persistently low levels of viral DNA (1,2).

Most of the diagnostic assays used today are based on detecting the presence of viral products (e.g. pp65) in circulating leukocytes. Therefore, the clinician may change the therapy based on only antigenemia and not on DNA levels. This could have clinical consequences for the patient. However, today there are diagnostic assays based on measuring the DNA levels available.

An excellent paper was published a few years ago describing the effect behind the above explained phenomenon in infected transplanted recipients (3). The authors show, in an *in vitro* model, that there is no need of changing a therapy based on solely the presence of antigenemia. The authors conclude “*antiviral therapy must not be changed in patients with increasing antigenemia and decreasing viremia and DNAemia, because virus replication is essentially blocked*”. They also state that “*on the contrary, in the case of drug resistant strains that cause increasing levels of pp65-positive PMNLs, as well as infectious virus and viral DNA, a prompt change of antiviral therapy is mandatory to control virus load and prevent CMV disease*”.

It can be concluded from this paper and others that monitoring of viral DNA levels is of great importance for the correct treatment of the CMV infected patient.

### References:

- 1) Grossi, P. *et al.* (1996) *Transplantation* **61**:1659-1
- 2) Gerna, G. *et al.* (1998) *J Clin Microbiol* **36** :1113-1116
- 3) Gerna, G. *et al.* (2003) *J Infect Diseases* **188**:1639-1647