Detection of Cytomegalovirus (CMV) Immediate Early Antigens in Peripheral Blood Leukocytes during Active CMV Infection

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Sir,

References

With great interest we have read the report by Aguado et al. [1] describing the early diagnosis of active cytomegalovirus (CMV) infection by indirect immunofluorescence in apparently in-vivo-infected peripheral blood cells using a monoclonal antibody (MoAB) against a CMV immediate early antigen (IEA). In contrast to the statement of the authors, this method is by no means new. As early as in 1984, Rice et al. [2] described that IEA is present in lymphocytes and monocytes that were infected in vitro with CMV. Furthermore, van der Bij et al. [3] reported in 1988 on the immunoperoxidase staining of peripheral blood leukocytes by a MoAB developed in our laboratory, directed against the 68-kD major IEA. Subsequently, this assay was shown to be an early, highly sensitive and specific diagnostic marker of active CMV infection [4]. In renal transplant recipients monitored weekly by various diagnostic methods, antigenemia was shown to be more sensitive and became positive 1–2 weeks earlier than viremia detected by a MoAB-aided, 'rapid' isolation method [5]. Comparable results have been obtained by other groups [6, 7].

Our technique may have some important advantages over the immunofluorescence method. First, as shown by van der Bij et al., the majority of IEA-positive blood cells are polymorph nuclear leucocytes, which are eliminated by LymphoPrep isolation, but retained by dextran sedimentation as used by us [4]. Second, our method easily lends itself to quantification, thus providing a useful parameter for the monitoring of the activity of CMV infection, and for the treatment with antiviral drugs. We regret that this aspect was not discussed by Aguado et al. In our view, the above-mentioned advantages make the immunoperoxidase staining technique the method of choice for the early detection and monitoring of active CMV infection in immunosuppressed patients.

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