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Letter to the editor

Does C2 level monitoring have benefit over C0 level monitoring among solid organ transplantation?

Behzad Einollahi, Zohreh Rostami

Nephrology and Urology Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran

We read the article by Hermann et al. [1] titled "Cyclosporine C0- versus C2-monitoring over three years in maintenance heart transplantation" with great interest, in your most valuable journal. This study focused its message on, and drew attention to, whether the second hour (C2) blood levels of cyclosporine (CsA) monitoring has clinical benefit over the measurement of CsA trough levels (C0) in heart transplant patients. They concluded that, in these recipients, measurement of C2 levels as a standard practice did not provide an advantage over C0 levels monitoring.

Although CsA is widely used after solid organ transplantation over the long term, there is still no firm consensus on the best way to monitor CsA blood levels [2]. It is of interest that Hermann et al. [1] reported no correlation between C2 levels and creatinine clearance. We agree that the C2 blood level assay does not have more priority than C0 level monitoring. Moreover, in spite of the general belief that it is the most sensitive marker for the area under the curve of drug and it has been planned as a more convenient method for pharmacokinetic monitoring than the usual C0 assay [3, 4], in clinical practice TDM of CsA with C0 blood levels continue to be routinely used, mainly because of its simplicity. In fact, C2 blood level measurement requires obtaining the second blood sample, and hence, it can lead to non-compliance problems, especially due to interrupted working time during the day. On the other hand, precise timing of blood samples for C2 values is crucial when compared to C0 blood levels. Consensus guidelines suggest that there is a 10-min "window of opportunity" before and after the 2-hr point in which samples should be taken [5].

In conclusion, we need a reliable way to monitor CsA therapy because of the adequate blood level of CsA which is required to prevention of the allograft rejection. Moreover, unreliability of C2 blood level and simplicity of C0 level monitoring are the main causes of the decreased practical popularity of C2 level monitoring, and the benefit of C2 monitoring over trough levels is questioned. We have to wait to find a faster, simpler, less expensive, more practical and more accurate method of CsA assays.

Correspondence: *Professor Behzad Einollahi, MD*
einollahi[at]numonthly.com

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