

Cyclosporine Trough Level Monitoring

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Editor,

In an interesting paper, Hami and colleagues¹ mentioned cyclosporine trough level (C0) has no direct relation with drug side effects and it is not a suitable measure for assessment of drug side

effects. In addition, they concluded C0 is not a reliable tool for dose adjustment of drug after kidney transplantation. We would like to draw the attention of the readers to studies that might be relevant to discuss in this context.

We agree with Hami and colleague¹ that we need a reliable way to monitor cyclosporine therapy because adequate blood level of cyclosporine is required for prevention of the allograft rejection. Moreover, 2-hour postdose level of cyclosporine (C2) is also not a good predictive value for kidney allograft side effect. We recommend that other tools are required to approach to therapeutic drug monitoring in order to prevent kidney allograft rejection and cyclosporine nephrotoxicity. Several studies have been previously described the nonsignificant statistical link between C0 and C2 with kidney allograft function.²⁻⁴ However, some data suggest that C2 levels are correlated better with dose and serum creatinine concentration.⁵ Although a previous international consensus statement on C2 monitoring strategies suggests importance of C2 blood level,⁶ direct evidence for an advantage of C2 monitoring over C0 blood levels is limited.⁷ Furthermore, a pilot study shows no advantages of C2 monitoring.² We also previously showed a relatively good outcome in kidney transplants despite obvious lower levels of C2 compared with international consensus recommendations.⁸ Pourfarziani and associates demonstrated that although most of the patients had C2 levels lower than the suggested ranges, they observed acceptable patient and graft survival rates. They suggested that different ethnic populations might need different target levels definition.⁹ Furthermore, approaching specific C2 levels for kidney transplant patients with different immunosuppressant regimen or genetic polymorphisms seem necessary.

On the other hand, cyclosporine blood level may lead to some clinical problems; for example, blood samples for C2 levels are taken during a more dynamic phase of cyclosporine absorption than those for trough levels, accurate timing of samples is a point of question.¹⁰ Controversial questions of C0 and C2 levels induced immunosuppressive action based upon close observation of most recent pharmacodynamic approaches are still interesting. Instead of a priori not beneficial cyclosporine monitoring tools, it seemed to be logical that we should re-inspect the possible of using them as

a supplementary tool towards better therapeutic drug monitoring of cyclosporine or it needs to reevaluate and find new target for therapeutic plan in kidney transplant patients.

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