

## **Despite potential for preanalytical error due to adsorption, cyclosporine infusion and monitoring via CVCs produce results similar to monitoring via peripheral blood draws” Shih et al (2017).**

Abstract:

**OBJECTIVES:** Cyclosporine is often monitored by drug levels drawn through central venous catheters (CVCs), which may be falsely elevated due to reversible drug adsorption onto the catheter. Therefore, we assessed the correlation between cyclosporine levels drawn peripherally and through CVCs.

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**METHODS:** Bone marrow transplantation patients had a weekly collection of both peripheral and CVC draws from dual-lumen catheters simultaneously to assess cyclosporine levels after research ethics approval. Our primary outcome was the proportion of paired samples that were incongruent-defined as the mean of the CVC level being greater than 2 standard deviations from the peripheral level mean.

**RESULTS:** After approaching 27 eligible patients, 20 patients (77.8%) provided samples. Of 53 paired samples, seven were incongruent (13.2%). Peripheral and CVC levels correlated ( $r = 0.91$ ) and agreed well.

**CONCLUSION:** Despite potential for preanalytical error due to adsorption, cyclosporine infusion and monitoring via CVCs produce results similar to monitoring via peripheral blood draws.

Reference:

Shih, A.W., Crowther, M.A., Jamula, E., El-Sharkawy, R., Brown, M., Paterson, G., Lui, M. and Don-Wauchope, A.C. (2017) Assessment of the Measurement Error in Cyclosporine Levels Drawn Between Peripheral and Central Sources. *American Journal of Clinical Pathology*. 149(1), p.76-81.



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