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지속적 정정맥 투석요법과 지속적 정정맥 여과투석을 사용하는 핍뇨 환자에서 Vancomycin의 약동학적 변수 관찰

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Vancomycin Pharmacokinetics in Oliguric Patients Undergoing Continuous Venovenous Hemodialysis and Continuous Venovenous Hemodiafiltration

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Introduction and aims : The clearance of vancomycin is significantly reduced in patients with decreased glomerular filtration rate (GFR). Although various dosage recommendations have been proposed for these patients, data on vancomycin dosing in the continuous venovenous hemodialysis (CVVHD) and continuous venovenous hemodiafiltration (CVVHDF) are limited. We performed this study to determine appropriate vancomycin dosing strategies for oliguric patients receiving CVVHD and CVVHDF.

Methods : Data at steady-state obtained as part of our routine drug monitoring of vancomycin therapy (Therapeutic drug monitoring, TDM) in adult critically ill oliguric patients undergoing CVVHD or CVVHDF, retrospectively. Data were available for 18 patients with a total number of 35 TDM assessed for 2 years. We analyzed the pharmacokinetic parameters of the TDM.

Results : 8 TDM data on CVVHD and 27 TDM data on CVVHDF were available. The mean of effluent flow of CVVHD was 17.7±4.9 mL/hour/Kg and that of CVVHDF was 32.1±3.9 mL/hour/Kg. The mean of clearance of vancomycin was 16.4±3.8 mL/min in the CVVHD group and 21.6 i ±5.1 mL/min in the CVVHDF group (p=0.009). The elimination of vancomycin correlated with the effluent flow (CVVHD; r=0.745, p=0.000, CVVHDF; r=0.452, p=0.215).

Conclusion : We found a strong dependency of the vancomycin removal on the effluent flow. The findings suggest that the proper intravenous vancomycin dose to achieve a recommended plasm concentration in oliguric patient undergoing CVVHD and CVVHDF is 7 mg/Kg/day on CVVHD at rate of effluent flow of 17.7±4.9 mL/hour/Kg and 11 mg/kg/day on CVVHDF at rate of effluent flow of 32.1±.9 mL/hour/Kg.

Key Words : 지속적 신대체 요법, 반코마이신, 약동학
Continuous renal replacement therapy, Vancomycin