Continuous Arteriovenous Hemofiltration with Low-Molecular-Weight Heparin

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Dear Sir,

Continuous arteriovenous hemofiltration (CAH) is an extracorporeal technique especially applicable in the critically ill patient with hemodynamic instability [1]. However, continuous heparinization required by CAH may be hazardous in high-risk hemorrhagic patients. Thus the possibly less hemorrhagic properties for a constant antithrombotic effect of low-molecular-weight heparin (LMWH) [2] is obviously attractive in this high-risk group of patients. 2 high-risk hemorrhagic patients with acute renal failure underwent CAH using an LMWH (Cy 222, CHOAY Institute, France) at a dose between 1,000 and 3,000 U/h and a fiber hemofilter (FH 101 – Gambro) during 12 and 72 h respectively. Ultrafiltration rate did not decrease during the whole duration of CAH. Creatinine clearance and sieving coefficient remained unchanged after 72 h of CAH in the 2nd case (table I), attesting an antithrombotic effect of LMWH. The sieving coefficient of Cy 222 was very low, between 0.03 and 0.1, probably because of binding of Cy 222 onto antithrombin III. No bleeding was observed; thus, the use of LMWH appears to be preferable during CAH.

References

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Table I. Operational data for 1 patient on CAH with low-molecular-weight heparin

The heparin concentration was measured as factor Xa and IIa inactivation using the chromogenic substrates.