Dear Sir,

Previous studies have shown that granulocyte elastase (E-αiPl) is increased during hemodialysis [1]. This increase depends on the type of dialyzer membrane used [2]. The release of granulocyte E-αiPl has been attributed to the contact between leukocytes and the dialyzer membrane which results in the so-called ‘frustrated phagocytosis’.

Our results, using different types of membranes (AN-69®, polymethyl methacrylate, cuproammonium, Gam-brane®), show increases in plasma levels of E-αiPl at 180 min similar to the values observed by Hörl et al. [2] (AN-69 +168%, polymethyl methacrylate +265%, cuproammonium + 345%, Gambrane +384%).

On the other hand, we have measured the increases of E-αiPl during hemodialysis with an ethylenevinyl alco-
hol (EVAL) membrane, with and without heparin, in 7 stabilized patients at 0.15 and 180 min. The increase in EVAL without heparin at 180 min (+36 ± 26%) is significantly lower than that observed with heparin (+102 ± 72%; p < 0.05, Wilcoxon’s test), without any noticed variation in induced leukopenia (-57 vs. -55%; fig. 1).

In addition, we have analyzed the contents of E-αiPl in blood after 15 min of hemodialysis at the inlet and at the outlet of the dialyzer in the same patients. The increase (inlet-outlet) with heparin (+56 ± 71%) is significantly higher than that observed without heparin (-5 ± 7%; p < 0.05, Wilcoxon’s test).

These results suggest that release of granulocyte E-αiPl during hemodialysis is not only related to the types of membrane used, but also to the anticoagulation (heparin).
References

15
180
Time on dialysis, min
Fig. 1. Percent changes of plasma E-αIPI levels as a function of dialysis time for the EVAL membrane with and without heparin. Data are expressed as mean values ± SEM. *p < 0.05.