Aluminum Removal in Uremic Patients after Desferrioxamine Infusion: Is Hemofiltration More Effective than Hemodialysis?

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Dear Sir,

With interest we read the report of Weiss et al. [1]. We do not agree with their statement that intermittent hemofiltration treatment (exchange of 18/20 l) in uremic patients after desferrioxamine infusion is much more effective to remove aluminum-DFO complex than hemodialysis treatment (4 h).

In our opinion it is important to take into account that in hemofiltration an aluminum-containing filtrate is removed but – at the same time – an aluminum-containing solution is infused: we could find that these solutions have an aluminum content of about 20–30 µg/l. The amount of infused aluminum has to be subtracted from the amount of aluminum removed with the filtrate.

The second comment relates to the data concerning the total amount of removed aluminum in hemodialysis: in our studies we found an amount of 1200–3600 µg aluminum removed by a hemodialysis treatment (cupro-phane membrane, 4 h) after infusion of 0.5–1.0 g desferrioxamine [2]. Weiss et al. [1] found only 576 ± 104 µg after infusion of a larger amount of desferrioxamine.

The third comment relates to the charcoal perfusion: it is difficult to measure the amount of aluminum removed by charcoal perfusion because the aluminum clearance of the charcoal perfusion system decreases to zero in the course of time [3] and measurement of aluminum in charcoal is very difficult.

In conclusion, in our opinion the hemodialysis treatment can be considered at least as effective as the hemofiltration treatment (exchange of 18/20 l) in removing aluminum-DFO complex despite the 2–3 times higher clearance rates of the hemofilter. We are not sure whether the high costs of charcoal hemoperfusion are justified by its advantages.

References

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