Dialysis hypotension and vasopressin
Nefrologia 2012;32(5):679

Dear Editor,

With interest, we read the article by Beladi-Mousavi et al.1 on the effect of intranasal DDAVP (Desmopressin) for the prevention of dialysis hypotension. The authors showed that, compared with placebo, intranasally administered DDAVP was associated with a significant decrease in the incidence of intradialytic hypotension episodes and higher postdialysis mean arterial blood pressures in 17 hypotension-prone patients. This observation adds evidence to the efficacy of vasopressin analogues for the prevention of dialysis hypotension following the study of Lindberg et al. showing that intranasal lysine-vasopressin increased intradialytic blood pressure in 6 patients with refractory dialysis hypotension.2 However, in our opinion, important questions should be answered before intranasal vasopressin analogues can be recommended for the prevention of dialysis hypotension. First, the optimal timing and dosage of intranasal Desmopressin and vasopressin administration must be determined. Therefore, it is important to know which dosage of DDAVP spray (2 puffs) Beladi-Mousavi et al. exactly used in their study. Second, the safety of repetitive intranasal administration of vasopressin analogues should be studied. Did Beladi-Mousavi et al. observe side effects of DDAVP treatment? Finally, future studies should compare the efficacy and safety profile of this treatment with other established measures for the prevention of dialysis hypotension, like cold dialysate and Midodrine administration.

We have some methodological comments on the study by Beladi-Mousavi et al. The authors did not state whether the placebo nasal spray (distilled water) was indistinguishable from the intranasal DDAVP spray. This is relevant to ensure that this was indeed a double-blind study, especially since all patients were first treated with placebo and then with intranasal DDAVP. Beladi-Mousavi et al. used a rather liberal definition of dialysis hypotension: a fall in systolic blood pressure >10mmHg. Although there is no standardized definition of intradialytic hypotension, recent guidelines propose a more strict definition: a decrease in systolic blood pressure ≥20mmHg or a decrease in MAP by 10mmHg in combination with a clinical event and the need for a nursing intervention.3 Notably, there are alternative vasopressin-related measures for the prevention of dialysis hypotension. Recently, we showed that hemodialysis with the biofeedback system Hemocontrol is associated with a significant increase of plasma vasopressin levels, whereas vasopressin levels did not change during conventional hemodialysis.4 Hemocontrol is a technique in which ultrafiltration rate and dialysate conductivity are continuously adjusted in response to blood volume changes. The augmented vasopressin release early during Hemocontrol hemodialysis is likely caused by a higher initial plasma sodium concentration and ultrafiltration rate.

Conflict of interest
The authors declare that there is no conflict of interest associated with this manuscript.