Absence of Anaphylactoid Reactions with the Combined Use of Ace Inhibitors and AN69 Hemodialysis Membranes

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Dear Sir,

Recently, C. Tielemans et al. [1] have described the occurrence of life-threatening reactions in hemodialysis (HD) patients on AN69 membranes receiving angioten-sin-converting enzyme inhibitors (ACEI). They described 5 such episodes in 3 HD patients, consisting of swelling of the face, bronchospasm, abdominal symptoms and severe hypotension appearing promptly after the start of an HD session. Enalapril in 2 patients and lisinopril in 1, were the ACEI implicated. No similar reactions were observed in patients hemodialyzed with other membranes and treated with ACEI.

These dramatic observations prompted us to review the charts of our HD patients treated with ACEI. Over 67 patients treated in our HD unit, 22 were receiving ACEI. Seven patients (group 1) were dialyzed using AN69 membranes (Biospal AN69 S Membrane, Hospal) and 15 patients (group 2) using cuprophane membranes (Lundia JC Plate dialyzer, Gambro). No anaphylactoid reactions or similar episodes to those described by Tielemans et al. [1] were observed in group 1 or in group 2 patients. Group 1 patients did not show secondary effects attributable to ACEI, whereas in group 2, ACEI were withdrawn in 2 patients because of skin rash and in another patient because of persistent cough.

Captopril was the ACEI administered to every group 1 patient; in group 2, captopril was used in 11 patients and enalapril in 2. Captopril doses in group 1 were 50–200 mg/24 h ($X 135.7 \pm 53.7$). In group 2, captopril

doses were 37.5–200 mg/24 h ($X 112.5 \pm 48.4$) and enalapril 15–20 mg/24 h. Duration of ACEI treatment was 1–48 months in group 1 ($X 13.14 \pm 17.4$) and 1–36 months in group 2 ($X 12.33 \pm 9.94$).

These results, therefore, are in sharp contrast with those reported by Tielemans et al. [1]; in our experience, the use of ACEI in patients dialyzed with AN69 was not associated with any special problem or life-threatening anaphylactoid reactions as described by these authors. It is possible that the use of captopril in our AN69-dialyzed patients can explain these discrepancies, since anaphylactoid reactions were observed with other ACEI: enalapril and lisinopril. We think, however, that the conclusions of Tielemans et al. [1], warning against the simultaneous use of ACEI and AN69 membranes, need the confirmation of more extensive clinical trials.

Reference

1 Tielemans CH, Madhoun P, Lenaers M, Schandene L, Goldman M, Vanherweghen JL:
Anaphylactoid reactions during hemodialysis on AN69 membranes in patients receiving ACE
inhibitors. *Kidney Int* 1990;38:982–984.