

at any current frequency [4]. Linearity supports validity of monitoring with only pre- and postdialysis measurements.

ANTONIO PICCOLI and MARTA CODOGNOTTO
Padova, Italy

Correspondence to Prof. Antonio Piccoli, Dept. Scienze Mediche e Chirurgiche, Policlinico IV piano, Via Giustiniani, 2, I-35128 Padova, Italy.
E-mail: apiccoli@unipd.it

REFERENCES

1. DI IORIO BR, SCALFI L, TERRACCIANO V, BELLIZZI V: A systematic evaluation of bioelectrical impedance measurement after hemodialysis session. *Kidney Int* 65:2435–2440, 2004
2. PICCOLI A, NIGRELLI S, CABERLOTTO A, *et al*: Bivariate normal values of the bioelectrical impedance vector in adult and elderly populations. *Am J Clin Nutr* 61:269–270, 1995
3. PICCOLI A, FOR THE ITALIAN HD-BIA STUDY GROUP: Identification of operational clues to dry weight prescription in hemodialysis using bioimpedance vector analysis. *Kidney Int* 53:1036–1043, 1998
4. PICCOLI A, PASTORI G, GUIZZO M, *et al*: Equivalence of information from single versus multiple frequency bioimpedance vector analysis in hemodialysis. *Kidney Int*, in press

Reply from the Authors

We appreciate Piccoli's interest in our article [1], and thank him for further analysis of the data we presented. We fully agree that a cyclical variation in BIA variables was apparent in hemodialysis patients during both dialysis and interdialysis periods according to the concept that dialysis causes a reduction of total body water, and especially (or only) of extracellular body water, and that total body water progressively increases between dialysis sessions due to water retention.

Indeed, change in resistance, reactance, and phase angle during a hemodialysis session can be affected by other factors, such as an increase in hematocrit, variations in electrolytes concentration, a rapid shift from intracellular to extracellular water, and others [2]. As a matter of fact, acute changes in body water induced by dialysis are not predicted well by data derived from BIA [3], and when BIA was applied to estimate the fluid loss during hemodialysis, overestimation usually occurred. As a consequence, changes in BIA variables during either dialysis or interdialysis periods are expected to reflect variation in total body water and its extracellular/intracellular distribution, but also to be affected by other factors. Further studies seem necessary to us to understand to which extent these data can be compared with those obtained in a healthy population or in predialysis patients. In addition, our results indicate that the measurement timing with respect to dialysis session is a crucial aspect in assessing BIA in such patients. Furthermore, since phase angle is considered an independent marker of survival [4–6], the

point of time for performing the analysis may influence the prognostic significance of such a parameter.

VINCENZO BELLIZZI, LUCA SCALFI, and BIAGIO R. DI IORIO
Avellino, Italy

Correspondence to Dr. Vincenzo Bellizzi, Unità Operativa Complessa di Nefrologia e Dialisi, Ospedale "A. Landolfi," Via Melito, 83029 Solofra (AV), Italy.
E-mail: vincenzo.bellizzi@tin.it

REFERENCES

1. DI IORIO BR, SCALFI L, TERRACCIANO V, BELLIZZI V: A systematic evaluation of bioelectrical impedance measurement after hemodialysis session. *Kidney Int* 65:2435–2440, 2004
2. KUSHNER RF, DE VRIES PM, GUDIVAKA R: Use of bioelectrical impedance analysis measurements in the clinical management of patients undergoing dialysis. *Am J Clin Nutr* 64(Suppl 3):503S–509S, 1996
3. KURTIN PS, SHAPIRO AC, TOMITA H, RAIZMAN D: Volume status and body composition of chronic dialysis patients: Utility of bioelectric impedance plethysmography. *Am J Nephrol* 10:363–367, 1990
4. MAGGIORE Q, NIGRELLI S, CICCARELLI C, *et al*: Nutritional and prognostic correlates of bioimpedance indexes in hemodialysis patients. *Kidney Int* 50:2103–2108, 1996
5. CHERTOW GM, JACOBS DO, LAZARUS JM, *et al*: Phase angle predicts survival in hemodialysis patients. *J Renal Nutr* 7:204–207, 1997
6. DI IORIO B, TERRACCIANO V, QUERQUES M, *et al*: Bioimpedance indexes predict survival in hemodialysis patients. *J Renal Nutr* 7:216–217, 1997

End-stage renal disease increases plasma transcobalamin and neutralizes influence of TCN 776C>G polymorphism

To the Editor: A lack of influence of *TCN 776C>G* has been recently reported on transcobalamin and homocysteine plasma levels in two series of patients with kidney transplant and end-stage renal disease (ESRD), contrary to what was previously observed in a healthy population [1–3]. In the ESRD series, which included 66 hemodialysis patients, influences of *MTHFR 677TT* ($P = 0.024$) and *TCN 776CC* ($P = 0.036$) on homocysteine disappeared in a multivariate model that included a combination of *677TTx776CC* genotypes, a confounder of each polymorphism [2]. The lack of influence of *MTHFR* agreed with some of the previous data [4]. We performed a similar study in 55 nonsupplemented hemodialysis patients. We confirmed the lack of influence of either *TCN*