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AUTHORS' REPLY

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Dear Editor,

We would like to thank the authors for their comments and contributions about our original research entitled "Acute hemodialysis-induced changes in tissue Doppler echocardiography parameters" that was published in the September 2014 issue of the *Balkan Medical Journal* (1). I would like to provide some methodological explanations to clarify the criticisms mentioned in their letter.

In our study, we have studied 58 adult patients (30 males and 28 females; mean age 41.6±13.1 years and a mean hemodialysis duration of 73.7±51.8 months) with history of end-stage renal disease (ESRD) in the absence of documented athero-

sclerosis, or systemic pathologies (including malignancy, active infection, or inflammation) and without previous known heart disease who underwent echocardiography before and after hemodialysis with a mean fluid removal of 2863±602 mL/session.

In our study, we showed that the Em/Am ratio was a relatively load-independent index of diastolic function. This result is similar to that showed in the authors' letter. Unlike to their findings, we showed that a single hemodialysis session lead to acute deterioration in diastolic parameters, as examined by conventional Doppler echocardiography. In our study, both pulmonary inflow systolic (S) and diastolic (D) velocities declined after hemodialysis session. Because D velocity decreased more than S velocity, the ratio of S/D markedly elevated as well. These discrepancies could be related to differences in the study population size (26 patients vs. 58 patients) and ultrafiltration volume (1830 ml vs. 2863 ml). Indeed, in the Table 1 given by the authors both S and D velocities mildly and non-significantly deteriorated after hemodialysis treatment. If their sample size had been larger, their significance levels could be similar to our results.

In conclusion, controversial data exists about the volume independent diastolic echocardiographic parameters in patients with ESRD (2-5). Therefore, larger randomized controlled trials or meta-analyses are necessary in this study population.

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