Author`s Reply

To the Editor,

I would like to answer the comments about our article entitled ''The effects of chronic usage of angiotensin converting enzyme inhibitors and angiotensin receptor blockers on contrast induced nephropathy in low risk patients''.

Nowadays, there are a lot of debates about angiotensin converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARB) for their mechanism, effects and cardiovascular outcomes. They can be called as rennin angiotensin aldosterone blockers (RAAS), but the data for these drugs is still controversial. In the literature these two drug groups were investigated as two different drugs (1-3). Actually, this distinction is valuable to learn about the difference between these drugs for contrast-induced nephropathy (CIN). In our study ARB group was older than others but it was not statistically significant (no RAAS, ACEI and ARB group respectively, 61.9±12.9; 64.1±12.0; 65.4±13.1; p=0.16). There was no significant difference between groups for baseline characteristics except hypertension.

The usage of N-acetylcysteine with fluid infusion was recommended in guideline as a class II recommendation but only N-acetylcysteine administration was not recommended (4). According to ethical rules, the patients whose baseline creatinine was ≥1.2 mg/dL, received preventive treatment. We used our protocol for CIN prevention including 0.9% isotonic infusion (1 mL/kg/h, upper limit 100 mL/h) and N-acetylcysteine 600 mg twice daily as our previous study (5).

We analyzed our study population for hemoglobin and hematocrit values before contrast administration. We found that all three groups were comparable for hemoglobin and hematocrit, there was no significant difference (Table 1).

In our study there were no significant difference between groups for hyperlipidemia and diabetes mellitus. The usage of anti-hyperlipidemic and anti-diabetic drugs was allowed according to clinical indications. In ACEI and ARB groups, we have data for molecule type and dosage. But the numbers were too small for statistical analyses.

Fortunately, no patients needed hemodialysis. Mehran risk score is an important parameter which can predict the risk of CIN in patients with elective coronary procedures and also with acute coronary syndromes (6). Mehran score was found one of the independent predictors of CIN in our study. The contrast type and dosage were not significantly different between three groups.

Finally, our study was not designed to investigate to stop or continue the RAAS blocker drugs before contrast administration. We did not comment this issue in our article. Maybe another study will be designed to clarify this important question.

Table 1. The comparison between groups for hemoglobin and hematocrit values

Variables	No RAAS (n=95)	ACEI (n=106)	ARB (n=94)	p
Hemoglobin	13.1±1.6	13.2±2.2	12.9±1.9	0.69
Hematocrit	38.8±4.7	39.1±6.4	38.1±5.5	0.47

Data are presented as mean±SD
ACEI - angiotensin coversting enzyme inhibitor, ARB - angiotensin receptor blocker, RAAS - renin-angiotensin-aldosterone system

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References

1. Rosenstock JL, Bruno R, Kim JK, Lubarsky L, Schaller R, Panagopoulos G, et al. The effect of withdrawal of ACE inhibitors or angiotensin receptor blockers prior to coronary angiography on the incidence of contrast-induced nephropathy. Int Urol Nephrol 2008; 40: 749-55. [CrossRef]
2. Kiski D, Stepper W, Brand E, Breithardt G, Reinecke H. Impact of renin-angiotensin-aldosterone blockade by angiotensin-converting enzyme inhibitors or AT-1 blockers on frequency of contrast medium-induced nephropathy: a post-hoc analysis from the Dialysis-Versus-Diuresis (DVD) trial. Nephrol Dial Transplant 2010; 25: 759-64. [CrossRef]
3. Umruddin Z, Moe K, Superdock K. ACE inhibitor or angiotensin II receptor blocker use is a risk factor for contrast-induced nephropathy. J Nephrol 2012; 25: 776-81. [CrossRef]
4. The ad-hoc working group of ERBP: Fliser D, Laville M, Covic A, Fouque D, Vanholder R, Juillard L, et al. A European Renal Best Practice (ERBP) position statement on the Kidney Disease Improving Global Outcomes (KDIGO) Clinical Practice Guidelines on Acute Kidney Injury: Part 1: definitions, conservative management and contrast-induced nephropathy. Nephrol Dial Transplant 2012; 27: 4263-72.
5. Özcan EE, Güneri S, Akdeniz B, Akyıldız IZ, Şenaslan O, Barış N, et al. Sodium bicarbonate, N-acetylcysteine, and saline for prevention of radiocontrast-induced nephropathy. A comparison of 3 regimens for protecting contrast-induced nephropathy in patients undergoing coronary procedures. A single-center prospective controlled trial. Am Heart J 2007; 154: 539-44. [CrossRef]
6. Mehran R, Aymong ED, Nikolsky E, Lasic Z, Iakovou I, Fahy M, et al. A simple risk score for prediction of contrast induced nephropathy after coronary intervention: development and initial validation. J Am Coll Cardiol 2004; 44: 1393-9. [CrossRef]

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About contrast-induced nephropathy

Kontrast nefropatisi üzerine

To the Editor,

Congratulations to the authors for this very interesting and published valuable study in The Anatolian Journal Cardiology entitled "The effects of chronic usage of angiotensin-converting enzyme inhibitors and angiotensin receptor blockers on contrast-induced nephropathy in low-risk patients." by Barış et al. (1). We want to put emphasis on some issues that are important to us:

The onset of kidney injury is probably within minutes of exposure to contrast agents. However, clinical manifestations such as oliguria or an increase in the serum creatinine are generally observed within 24 to 48 hours after contrast exposure (2). The creatinine usually starts to decline within three to seven days. In the present study, the patients were followed for 48-72 hours after the procedure for the assessment of renal functions. Why did the authors not follow the patients more than 72 hours to see whether the creatinine values reached the basal values or the nephropathy became persistent? So, the question of "how

was the follow-up of patients?" remained unclear. Additionally, length of stays (in-hospital, intensive care unit, etc) should also be included in a time-related manner. The percentage of patients with "complete" follow-up should be stated in the methodology. In Statistical Analysis section, the method of how the authors replaced the missing variables at the time of data collection should be expressed. Although sometimes unavoidable, the missing information reduces the analytical possibilities and quality of analysis.

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References

1. Barış N, Özpelit E, Doğan NB, Kangül H, Gül S, Akdeniz B, et al. The effects of chronic usage of angiotensin-converting enzyme inhibitors and angiotensin receptor blockers on contrast-induced nephropathy in low-risk patients. Anadolu Kardiyol Derg 2013; 13: 245-50.
2. Rudnick MR, Berns JS, Cohen RM, Goldfarb S. Nephrotoxic risks of renal angiography: contrast media-associated nephrotoxicity and atheroembolism--a critical review. Am J Kidney Dis 1994; 24: 713-27.

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Author`s Reply

To the Editor,

We would like to answer the comments about our article entitled "The effects of chronic usage of angiotensin converting enzyme inhibitors and angiotensin receptor blockers on contrast induced nephropathy in low risk patients" (1) and thank authors for valuable comments.

We designed our study according to laboratory end-point (contrast induced nephropathy-CIN) not to clinical end-point. For this reason, the follow up of the patients was ended when CIN occurred. However the clinically follow- up of the patients with CIN was continued by their attending doctors until complete improvement.

The missing variables were not replaced. In the analysis, we analyzed each variable according to exact group number.

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References

1. Barış N, Özpelit E, Doğan NB, Kangül H, Gül S, Akdeniz B, et al. The effects of chronic usage of angiotensin-converting enzyme inhibitors and angiotensin receptor blockers on contrast-induced nephropathy in low-risk patients. Anadolu Kardiyol Derg 2013; 13: 245-50.

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Flow-mediated dilatation measurement as a simple practical method in Behçet's diseases without cardiovascular involvement

Kardiyovasküler tutulumu olmayan Behçet hastalarında basit pratik metod olarak akım aracılı dilatasyon ölçümü

To the Editor,

We have read the article "Effect of nebivolol on endothelial dysfunction in patients with Behçet's disease (BD); a prospective single-arm controlled study" written by Akkaya et al. (1) with a great interest. The authors aimed to evaluate the effects of nebivolol on endothelial dysfunction in patients with BD. They concluded that nebivolol improved endothelial dysfunction in BD patients. Thanks to the authors for their contribution of the present study, which is successfully designed and documented.

Behçet's disease is a chronic, multi-systemic, inflammatory process with the clinical features of mucocutaneous lesions, and ocular, vascular, articular, gastrointestinal, neurologic, urogenital, pulmonary, and cardiac involvement (2). This multisystemic disorder primarily affects the vascular system. BD is commonly related to morbidity and mortality accompanied by the vascular system presenting vasculitis, thromboembolism and pulmonary artery aneurysm. Increased inflammatory response in BD may lead to endothelial dysfunction which results in vasculopathy. Therefore, in the present study, the authors did not mention the vascular system findings. Additionally, male sex, a younger age of onset, HLAB51 positivity in BD are associated with vascular involvement and they predict morbidity and mortality in BD (3). BD patients had used any medications including azathioprine, steroid, colchicine and other novel treatment modalities as a infliximab which related to effective vasculitic activity in patients with BD (4).

Endothelial dysfunction was assessed by brachial artery flow-mediated dilatation (FMD). The FMD measurement with ultrasonographically has several advantages, including its inexpensive, simple accessibility, rapid applicability and good reproducibility. However, endothelial dysfunction and inflammation occur in parallel with the decline in estimated glomerular filtration rate. Furthermore, obstructive sleep apnea may be related to cardiovascular disease based on endothelial dysfunction and higher inflammatory status. Furthermore, nonalcoholic fatty liver disease (NAFLD) is an independent risk factors for coronary artery disease. The presence and the degree of NAFLD are associated with higher inflammatory condition in nonhypertensive, nondiabetic individuals (5). Magnesium is another interrelated factors and potential confounders in endothelial dysfunction. Subclinical hypothyroidism is importantly implicated in endothelial dysfunction (6).