

studies, body mass index was higher in PCOS group, whereas it was similar in other studies (2, 4). Similar results were also true for insulin resistance, serum lipid level, and blood pressure variability. In light of these data, it is not clearly known whether or not cardiac autonomic activity is deteriorated in PCOS. If so, the underlying mechanism or mechanisms have not yet been identified.

In conclusion, we have the same opinions and concerns you expressed. We believe that these contradictions could be resolved with multi-center, large-scale, comprehensive studies.

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References

1. Özkeçeci G, Ünlü BS, Dursun H, Akçi Ö, Köken G, Onrat E, et al. Heart rate variability and heart rate turbulence in patients with polycystic ovary syndrome. *Anatol J Cardiol* 2016; 16: 323-7.
2. Tekin G, Tekin A, Kılıçarslan EB, Haydardedeoğlu B, Katircıbaşı T, Koçum T, et al. Altered autonomic neural control of the cardiovascular system in patients with polycystic ovary syndrome. *Int J Cardiol* 2008; 130: 49-55. [Crossref](#)
3. Yıldırım A, Aybar F, Kabakçı G, Yaralı H, Oto A. Heart rate variability in young women with polycystic ovary syndrome. *Ann Noninvasive Electrocardiol* 2006; 11: 306-12. [Crossref](#)
4. Saranya K, Pal GK, Habeebullah S, Pal P. Assessment of cardiovascular autonomic function in patients with polycystic ovary syndrome. *J Obstet Gynaecol Res* 2014; 40: 192-9. [Crossref](#)
5. de Sá JC, Costa EC, da Silva E, Zuttin RS, da Silva EP, Lemos TM, et al. Analysis of heart rate variability in polycystic ovary syndrome. *Gynecol Endocrinol* 2011; 27: 443-7. [Crossref](#)

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Postoperative cognitive dysfunction markers in coronary artery surgery

To the Editor,

We congratulate Öztürk et al. (1) on their study entitled "Effect of the type of cardiopulmonary bypass pump flow on postoperative cognitive function in patients undergoing isolated coronary artery surgery" published for the *Anatolian Journal of Cardiology* 2016 May 9 as an Epub ahead of print. We believe that we can offer the authors some points that will contribute to their study in which they compared use of pulsatile and non-pulsatile pumps in terms of post-operative cognitive dysfunction (POCD). Firstly, although the study is prospective, not very many data about the patients were analyzed. Some factors that are predictors of POCD should have been compared between the 2 groups. For example, we see that the authors did not analyze hypertension, diabetes

mellitus, duration of operation, period of anesthesia, preoperative low ejection fraction, low effort capacity, or preoperative European system for cardiac operative risk evaluation levels, which are described as predictor factors for POCD in several studies (2, 3). In order to compare the 2 groups, it should have been reported that there was no difference on the basis of these parameters. The authors, inspired by some previous studies, analyzed levels of S100 β and neuron-specific enolase biomarkers, which they thought might be associated with POCD. However, one of the most-used biomarkers in the literature associated with POCD is serum cortisone level (4). We are of the opinion that if the authors provide us with their ideas on this subject and if they can share any available data for these parameters, it will surely add value to their study.

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References

1. Öztürk S, Saçar M, Baltalarlı A, Öztürk İ. Effect of the type of cardiopulmonary bypass pump flow on postoperative cognitive function in patients undergoing isolated coronary artery surgery. *Anatol J Cardiol* 2016 May 9. Epub ahead of print.
2. Mu DL, Li LH, Wang DX, Li N, Shan GJ, Li J, et al. High postoperative serum cortisol level is associated with increased risk of cognitive dysfunction early after coronary artery bypass graft surgery: a prospective cohort study. *PLoS One* 2013; 8: e77637. [Crossref](#)
3. Mu DL, Wang DX, Li LH, Shan GJ, Li J, Yu QJ, et al. High serum cortisol level is associated with increased risk of delirium after coronary artery bypass surgery: a prospective cohort study. *Crit Care* 2010; 14: R238. [Crossref](#)
4. Lupien SJ, Maheu F, Tu M, Fiocco A, Schramek TE. The effects of stress and stress hormones on human cognition: implications for the field of brain and cognition. *Brain Cogn* 2007; 65: 209-37. [Crossref](#)

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Author's Reply

To the Editor,

We thank the authors for their evaluation of our article entitled "Effect of the type of cardiopulmonary bypass pump flow on postoperative cognitive function in patients undergoing isolated coronary artery surgery" published in the *Anatolian Journal of Cardiology* 2016 (1).

Postoperative cognitive dysfunction (POCD) is a clinical situation that has multifactorial etiology, especially in cardiac surgery. Therefore, we tried to eliminate possible factors of POCD such as history of carotid lesion, diabetes mellitus, valvular disease, liver or renal failure, ejection fraction <55%, transient ischemic attack, use of psychiatric medication, previous surgery for another reason, or a cognitive function disorder. We also excluded geriatric patients (age >65 years). We wanted to standardize all of the perioperative variables about anesthesia and surgery. We didn't report them in the methods section of article because no significant differences between groups were found.

In a recent review, Androsova et al. (2) summarized related biomarkers for 2 different clinical conditions: delirium and POCD. The authors concluded findings about S100 β were contradictory and also that neuron-specific enolase was not associated with POCD. At this point, our results for these biomarkers are similar to those seen in the literature.

Rasmussen et al. (3) reported pattern of diurnal variation in cortisol level was significantly related to POCD. However, studies have mostly examined cortisol as a marker of delirium (4). To our knowledge, except for Rasmussen et al. (3), only Mu et al. (5) found serum cortisol level related to POCD in a cohort study. In our opinion, this issue must be investigated with a large randomized trial and/or meta-analysis.

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References

1. Öztürk S, Saçar M, Baltalarlı A, Öztürk İ. Effect of the type of cardiopulmonary bypass pump flow on postoperative cognitive function in patients undergoing isolated coronary artery surgery. *Anatol J Cardiol* 2016 May 9. Epub ahead of print.
2. Androsova G, Krause R, Winterer G, Schneider R. Biomarkers of postoperative delirium and cognitive dysfunction. *Front Aging Neurosci* 2015; 7: 112. [Crossref](#)
3. Rasmussen LS, O'Brien JT, Silverstein JH, Johnson TW, Siersma VD, Canet J, et al. Is peri-operative cortisol secretion related to post-operative cognitive dysfunction? *Acta Anaesthesiol Scand* 2005; 49: 1225-31. [Crossref](#)
4. Kazmierski J, Banys A, Latek J, Bourke J, Jaszewski R, Sobow T, et al. Mild cognitive impairment with associated inflammatory and cortisol alterations as independent risk factor for postoperative delirium. *Dement Geriatr Cogn Disord* 2014; 38: 65-78. [Crossref](#)
5. Mu DL, Li LH, Wang DX, Li N, Shan GJ, Li J, et al. High postoperative serum cortisol level is associated with increased risk of cognitive dysfunction early after coronary artery bypass graft surgery: a prospective cohort study. *PLoS One* 2013; 8: e77637. [Crossref](#)

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SYNTAX score predicts postoperative atrial fibrillation in patients undergoing on-pump isolated coronary artery bypass grafting surgery

To the Editor,

We read the published article entitled "SYNTAX score predicts postoperative atrial fibrillation in patients undergoing on-pump isolated coronary artery bypass grafting surgery" published in *Anatol J Cardiol* 2015 Nov 18 (1). with great pleasure. I congratulate the authors for this excellent study; however, we would like to highlight some points regarding this article. In their study, the authors reported that SYNTAX score, age, and chronic obstructive pulmonary disease are independently related to postoperative atrial fibrillation (PoAF). PoAF definition is a controversial issue and not clearly identified in the literature. According to 2012 European Society of Cardiology guidelines for diagnosis and treatment of atrial fibrillation, absolutely irregular RR intervals and absence of consistent P waves on the surface electrocardiogram (ECG) lasting long enough for 12-lead ECG to be recorded, or at least 30 seconds on rhythm strip, should be considered AF (2). The authors defined PoAF as an AF episode following surgery lasting longer than 5 minutes. How were patients who had AF lasting less than 5 minutes classified? In addition, it was reported that Geçmen et al. (1) followed the patients with continuous telemetry for between 72 and 96 hours after surgery; however, mean length of stay in hospital was not mentioned. PoAF is known to increase length of hospital stay, sometimes extending to 7 to 10 days. In this context, we could expect to find a difference in length of hospital stay between patients with and without PoAF and authors should report this data.

Another issue we would like to discuss is risk factors for PoAF. In this study, the authors evaluated a number of risk factors that might be associated with PoAF. However, obstructive sleep apnea, obesity, and inadequate use of beta blockers or renin-angiotensin aldosterone (RAS) blockers have also been shown to be independent predictors of new onset PoAF (3, 4). These risk factors should be included in statistical analyses. We suppose that many patients in this study might use RAS and beta blockers since they had many cardiovascular diseases such as hypertension, heart failure, and acute coronary syndrome. We think that adding these variables to statistical analyses may change predictive value of SYNTAX score for PoAF.

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