

## Possible renoprotective effects of dabigatran

To the Editor,

I read with great interest the article by Altın et al. (1) with reference to their experience on dabigatran treatment for acute renal infarction (ARI) in a case report entitled "A novel oral anticoagulant, dabigatran, in acute renal infarction" published in *Anatol J Cardiol* 2015; 15: 158-9. The authors claimed that in patients with ARI, a direct thrombin inhibitor, dabigatran, is preferred for both treatment and conservative anticoagulation. I thank them for their important contribution in clarifying a crucial topic that was lacking definitive data and that had insufficient guidelines.

Conservative anticoagulant treatment regimens are important for protecting stroke and systemic embolic events in patients with prothrombotic disorders, such as atrial fibrillation (AF), severe renal failure, etc. (1, 2). Results of recent studies increased the reliability of the usage as an alternative therapy with novel oral anticoagulant agents in the treatment of coagulative disorders. As the authors mentioned, the American College of Cardiology and American Heart Association reported that novel oral anticoagulants can be preferred as an alternative to warfarin for the acute or conservative treatment of procoagulant disorders, such as AF and venous thromboembolism, in selected patients (3, 4). However, it should be kept in mind that microembolism can occur even under anticoagulant therapy in these patients (2). Therefore, the potential effects of anticoagulants on end organs were investigated in current reports. In particular, the protective effects of these agents were evaluated after ischemia reperfusion (IR) injury, which occurred in healthy individuals, or hypercoagulability state patients under anticoagulant therapy (2, 5). Yazıcı et al. (5) reported that dabigatran etexilate seems to have potential renoprotective effects against IR injury in an experimental model. They detected quite low renal prolidase levels, which were determined as a predictive marker for catabolic process in the dabigatran-treated group after IR (5). Similarly, a positive outcome was reported in an ARI patient by Altın et al. (1). The favorable results of dabigatran can be related with the reducing thrombosis burden and/or owing to the potential cellular protective effects. These preliminary data and case reports can be possibly directed to the researchers to make more comprehensive cohort studies for clarifying the organ-specific and cellular effects of dabigatran.

To sum up, I believe that further studies will reveal new horizons on anticoagulation strategies. However, with the current knowledge available, it seems that dabigatran is a good alternative to warfarin for patients with a procoagulant tendency.

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### Author's Reply

To the Editor,

I would like to thank the authors for their supportive comments and valuable contributions to our article entitled "A novel oral anticoagulant, dabigatran, in acute renal infarction" published in the February 2015 issue of the *Anatolian Journal of Cardiology* (1).

Unfortunately, there are no clinical research data or therapeutic guidelines for acute renal infarction (ARI). Instead of invasive procedures, conservative therapy (hydration or systemic anticoagulation) is favorable in unilateral ARI (2). We preferred dabigatran as the oral anticoagulant in the conservative therapy of ARI and obtained an excellent clinical outcome. It is also possible that dabigatran had some potential renoprotective effects, which provide the excellent clinical outcome in our case in accordance with that in an experimental study by Yazıcı et al. (3) However, our article is only a case report; therefore, further comprehensive cohort studies are required to prove the possible renoprotective effects (organ specific and cellular) of dabigatran.

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## The possibility of using spectral indices of heart rate variability to improve the diagnostic value of cardiovascular autonomic function tests in rheumatoid arthritis patients

To the Editor,

Our comment is related the paper by Javady Nejad et al. (1) where they reported cardiovascular autonomic control in 44 rheumatoid arthritis (RA) patients and 44 healthy subjects. Until now, the involvement of the autonomic nervous system in chronic systemic inflammatory disorders is disputable. Several authors reported significant differences in cardiovascular autonomic control in RA patients and healthy subjects: Refs. 3, 7, and 10-14 in the paper by Javady Nejad et al. (1).

The strong point of the cross-sectional study performed by Javady Nejad et al. (1) is the employment of a variety of cardiovascular autonomic function tests, namely, deep breathing with a frequency of 6 breaths per minute, active tilt test, Valsalva maneuver, and sustained handgrip. On the contrary to previous results, the authors found no difference between the RA patients and control subjects in their responses to the autonomic function tests. This important result requires an additional analysis. The ECG recording was performed by Nejad et al. (1) during all tests. Therefore, it is advisable to further explore the indicators of heart rate variability (HRV) (2) that may complement the classical interpretation of the cardiovascular autonomic function test results.

The response of heart autonomic control, which is studied by HRV, to external periodic disturbances (such as controlled breathing, controlled eye opening, etc.) is determined by a frequency-dependent phenomenon (3, 4). The external 0.1-Hz disturbance at a rate of six actions per minute is a powerful factor for baroreflex control that shows itself in healthy subjects as a resonance response in the low-frequency heart rate variations (3, 4). Moreover, a 0.1-Hz controlled breathing is potentially the main external factor for the study of baroreflex gain and its dysfunction. Thus, spectral analysis of HRV can supplement the results of the study conducted by Javady Nejad et al. (1). The controlled breathing can also be combined with a tilt test (3) to obtain useful additional information in the further study of cardiovascular autonomic control in RA patients.

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### Author's Reply

To the Editor,

We appreciate the careful review and insightful comments by our colleagues regarding our recent study entitled "Cardiovascular autonomic neuropathy in rheumatoid arthritis assessed by cardiovascular autonomic function tests: A cross-sectional survey," which was published in *Anatol J Cardiol* on Nov 11, 2014. (1)

In our study, we assessed cardiovascular autonomic neuropathy (CAN) in rheumatoid arthritis (RA) patients compared with that in control subjects by bedside autonomic function tests (1).

These tests include the following: 1) beat-to-beat heart rate variation during deep breathing, 2) heart rate response to standing up, 3) heart rate response to the Valsalva maneuver, 4) blood pressure