5. Al Chekakie MO, Welles CC, Metoyer R, Ibrahim A, Shapira AR, Cytron J, et al. Pericardial fat is independently associated with human atrial fibrillation. J Am Coll Cardiol 2010; 56: 784-8.

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Author`s Reply

To the Editor,

We would like to thank the authors for their comments on our article in their letter entitled "Epicardial adipose tissue and atrial fibrillation: the other side of the coin." published in Anatol J Cardiol 2017; 17: 56-63. (1) epicardial adipose tissue (EAT), a special fat depot that is related to visceral fat rather than total adiposity, shares the same microcirculation with the myocardial tissue and coronary vessels. Recent studies have identified EAT as an active organ, which secretes several mediators, called adipokines, affecting the vascular system. In a prior study, we determined that EAT is associated with diastolic dysfunction and left atrial dilatation because of local or systemic effects in untreated hypertensive patients (2). We also revealed that EAT is an independent factor for adverse changes in the carotid intima-media thickness, flow-mediated dilation, and pulse wave velocity (3). Vascular structure and functions were mainly related to EAT, possibly with perivascular adiposity.

In our opinion, EAT has two main causative roles in atrial fibrillation (AF) development. The first role is the direct local interactions, which predispose the myocardial tissue to arrhythmic genesis due to abnormal atrial architecture, adipocyte infiltration, and atrial fibrosis (4). The second role is the indirect effects on left atrium reflecting from vasculature, which is mainly related to increased blood pressure because of increase in the peripheral vascular resistance after structural and functional impairment in the vascular endothelium (3). The latter mechanism is also a possible driver of the diastolic heart failure and diastolic dysfunction (2) as well as AF. Therefore, as a phrase, "peripheral resistive" may be more reason-oriented than "diastolic" in heart failure with preserved ejection fraction. These roles may be important in the prevention/management of cardiovascular diseases.

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References

1. Kocaman SA, Baysan O, Çetin M, Kayhan Altuner T, Polat Ocaklı E, Durakoğlugil ME, et al. An increase in epicardial adipose tissue is strongly associated with carotid intima-media thickness and atherosclerotic plaque, but LDL only with the plaque. Anatol J Cardiol 2017; 17: 56-63.
2. Çetin M, Kocaman SA, Durakoğlugil ME, Erdoğan T, Ergül E, Doğan S, et al. Effect of epicardial adipose tissue on diastolic functions and left atrial dimension in untreated hypertensive patients with normal systolic function. J Cardiol 2013; 61: 359-64.
3. Kocaman SA, Durakoğlugil ME, Çetin M, Erdoğan T, Ergül E, Canga A. The independent relationship of epicardial adipose tissue with carotid intima-media thickness and endothelial functions: the association of pulse wave velocity with the active facilitated arterial conduction concept. Blood Press Monit 2013; 18: 85-93.
4. Goette A, Kalman JM, Aguinaga L, Akar J, Cabrera JA, Chen SA, et al. EHRA/HRS/APHRS/SOLAECE expert consensus on atrial cardiomyopathies: Definition, characterization, and clinical implication. Heart Rhythm 2017; 14: e3-e40.

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P2Y12 inhibition after thrombotic thrombocytopenic purpura remission

To the Editor,

We read the article entitled "Ticagrelor-associated thrombotic thrombocytopenic purpura" by Doğan et al. (1), which was recently published in the Anatolian Journal of Cardiology, with great interest. It is well known that patients with acute coronary syndrome (ACS) who visit the emergency department have increased rates of recurrent ischemic events. Dual antiplatelet therapy (DAPT) is of importance to reduce these rates; further, DAPT duration after drug-eluting stent (DES) implantation is one the most significant determinant for reducing recurrent ischemic events, including stent thrombosis (2). In your case, DAPT was discontinued 5 weeks after ACS because of ticagrelor-associated thrombotic thrombocytopenic purpura (TTP), and aspirin was used as the only antiplatelet therapy for 6 months. According to the guidelines, DAPT should be administered for at least 12 months after ACS is treated with DES implantation (2). Further, retreatment with P2Y12 after TTP complete remission in ACS can be considered necessary. Reportedly, it is possible to encounter rechallenge with the same P2Y12 inhibitors, leading to TTP after remission. It was indicated that this approach does not induce relapse (3). In addition, in one case, ticlopidine was used instead of clopidogrel because of clopidogrel-linked TTP after TTP complete remission, and no relapse occurred after ticlopidine usage (4). Considering the foregoing data, a group of P2Y12 inhibitors different from ticagrelor could have been used with aspirin after TTP remission in your patient. Thienopyridines have action mechanisms different from those of ticagrelor and can be administered after ticagrelor-linked TTP.

On the other hand, the stent type is also crucial in case of recurrent ischemic events. In addition, DAPT duration can differ according to the first- and second-generation DES. DAPT duration can be shorter in second-generation DES than in first-generation DES (5). It will be beneficial to know which generation of stent was used in your case, which could have led to a better outcome of DAPT discontinuation.

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References

1. Doğan A, Özdemir B, Bal H, Özdemir E, Kurtoğlu N. Ticagrelor-associated thrombotic thrombocytopenic purpura. Anatol J Cardiol 2017; 17: 73-4.
2. Steg PG, James SK, Atar D, Badano LP, Blömstrom-Lundqvist C, Borger MA, et al. ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. Eur Heart J 2012; 33: 2569-619. [CrossRef]
3. Jacob S, Dunn BL, Qureshi ZP, Bandarenko N, Kwaan HC, Pandey DK, et al. Ticlopidine-, Clopidogrel-, and Prasugrel-Associated Thrombotic Thrombocytopenic Purpura: A 20-Year Review from the Southern Network on Adverse Reactions (SONAR). Semin Thromb Hemost 2012; 38: 845-53. [CrossRef]
4. Patel TN, Kreindel M, Lincoff AM. Use of ticlopidine and cilostazol after intracoronary drug-eluting stent placement in a patient with previous clopidogrel-induced thrombotic thrombocytopenic purpura: a case report. J Invasive Cardiol 2006; 18: E211–3.
5. Zhang T, Shen L, Hu L, He B. Optimal duration of dualantiplatelet therapy following drug-eluting stent implantation: a meta-analysis. J Clin Pharmacol 2013; 53: 345-51. [CrossRef]

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Author`s Reply

To the Editor,

We thank the authors for their contribution to our study that was recently published in the Anatolian Journal of Cardiology 2017; 17: 73-4 entitled "Ticagrelor-associated thrombotic thrombocytopenic purpura" (1). Initially, we used biolimus-eluting stent during primary percutaneous coronary intervention in the patient. Although DAPT duration was reduced to at least 6 months in patients with stable coronary artery disease, DAPT duration of at least 12 months is still recommended in patients with ST elevation myocardial infarction (2). Numerous studies have indicated that second-generation stents have low stent thrombosis (ST) and major adverse cardiac events. A 3-month usage of these new stents in treatment has shown to be unrelated to increased ST rate (3). Even with these findings, we could not conclude whether ticagrelor cessation at 5 weeks of therapy in our case would not have caused ST. In addition, the authors mainly emphasized a switch to thienopyridine derivatives. A switch from clopidogrel to ticlopidine and no relapse in the aforementioned case (4) could be explained by different action mechanisms leading to TTP with clopidogrel and ticlopidine. ADAMTS-13 deficiency is common in ticlopidine-associated cases in contrast to ADAMTS-13 independence in clopidogrel-associated ones (5). Prasugrel-linked TTP cases are few, and the exact mechanism is not clearly identified. Our ticagrelor-linked TTP case was also the first one in literature, and its exact mechanism was also not established. Eventually, P2Y12 inhibition was not re-initiated, and fortunately, no ST or TTP relapse occurred.

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References

1. Doğan A, Özdemir B, Bal H, Özdemir E, Kurtoğlu N. Ticagrelor-associated thrombotic thrombocytopenic purpura. Anatol J Cardiol 2017; 17: 73-4.
2. Levine GN, Bates ER, Bittl JA, Brindis RG, Fihn SD, Fleisher LA, et al. 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol 2016; 68: 1082-115.
3. Loh JP, Torguson R, Pendyala LK, Omar A, Chen F, Satler LF, et al. Impact of early versus late clopidogrel discontinuation on stent thrombosis following percutaneous coronary intervention with first- and second-generation drug-eluting stents. Am J Cardiol 2014; 113: 1968-76.
4. Patel TN, Kreindel M, Lincoff AM. Use of ticlopidine and cilostazol after intracoronary drug-eluting stent placement in a patient with previous clopidogrel-induced thrombotic thrombocytopenic purpura: a case report. J Invasive Cardiol 2006; 18: E211–3.
5. Jacob S, Dunn BL, Qureshi ZP, Bandarenko N, Kwaan HC, Pandey DK, et al. Ticlopidine-, Clopidogrel-, and Prasugrel-Associated Thrombotic Thrombocytopenic Purpura: A 20-Year Review from the Southern Network on Adverse Reactions (SONAR). Semin Thromb Hemost 2012; 38: 845-53.

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IRAK-4 Variants in acute coronary syndrome patients

To the Editor,

In recent years, the role of biomarkers that reflect the inflammation and the inflammatory situation in coronary artery disease has been investigated in many studies (1, 2). Acute