relevant with AF recurrence in the present study. In addition, we aimed to predict AF recurrence using parameters that easily applied in daily clinical practice. We therefore preferred AP-Lad that is routinely used in daily electrocardiographic evaluations and more practical than LAVI.

Interatrial conduction delays have been implicated in initiating and maintaining AF (6). P-wave dispersion (PWD) shows the prolonged interatrial conduction and can be used to predict the recurrence of AF. We agree with the opinion that PWD can be used as a practical predictor of AF. It could be exciting and interesting study in which NLR and PWD are evaluated together and these parameters are compared.

We are in absolutely agreement with authors about the improving effects of antiarrhythmic drug therapy on prognosis in AF. Therefore, amiodarone was given to all patients before cardioversion (CV) and was continued for 1 month following CV in this study. Antihypertensive agents such as angiotensin converting enzyme inhibitors and angiotensin receptor blockers have antifibrillatory and antifibrotic actions via inhibition of angiotensin II. Also, statins have anti-inflammatory and antioxidant action. However, according to the ESC 2012 AF guideline, there is only little reason to consider the use of such therapy for the prevention of AF recurrence in patients with little or no underlying heart disease (7).

We agree with authors that bacterial or viral infections, chronic inflammatory disease and drug treatments might affect neutrophil and lymphocyte counts and so the ratio of these parameters might be changed. Therefore, we excluded the patients with chronic obstructive pulmonary disease, malignity and acute infectious disease. It could be considered to evaluate together with other serum inflammatory markers. However, these inflammation markers are not used in daily practice and are only assayed with commercially available kits. Another limitation of commercial kits is those shelf lives are generally short after first use. However, our aim was to find a basic parameter analysis of which is quick, economical and labor free for predicting AF following electrical cardioversion (ECV). For this reason, other serum inflammatory markers were not evaluated.

Finally, we support the comments of authors that future large-scale prospective clinical studies are needed to clarify the essential pathophysiological mechanisms in the recurrence of AF after ECV in patients with non-valvular AF.

Alpay Arıbaş, Hakan Akıllı, Mehmet Kayrak
Department of Cardiology, Meram Faculty of Medicine, Necmettin Erbakan University, Konya-*Turkey*

References

1. Aribas A, Akilli H, Gul EE, Kayrak M, Demir K, Duman C, et al. Can neutrophil/lymphocyte ratio predict recurrence after electrical cardioversion in non-valvular atrial fibrillation? Anadolu Kardiyol Derg 2013; 13: 123-30.
2. Maddukuri PV, Vieira ML, DeCastro S, Maron MS, Kuvin JT, Patel AR, et al. What is the best approach for the assessment of left atrial size? Comparison of various unidimensional and two-dimensional parameters with three-dimensional echocardiographically determined left atrial volume. J Am Soc Echocardiogr 2006; 19: 1026-32. [CrossRef]
3. Marchese P, Bursi F, Delle Donne G, Malavasi V, Casali E, Barbieri A, et al. Indexed left atrial volume predicts the recurrence of non-valvular atrial fibrillation after successful cardioversion. Eur J Echocardiogr 2011; 12: 214-21. [CrossRef]
4. Olshansky B, Heller EN, Mitchell LB, Chandler M, Slater W, Green M, et al. Are transthoracic echocardiographic parameters associated with atrial fibrillation recurrence or stroke? Results from the Atrial Fibrillation Follow-Up Investigation of Rhythm Management (AFFIRM) study. J Am Coll Cardiol 2005; 45: 2026-33. [CrossRef]
5. Chang SL, Tsao HM, Lin YJ, Lo LW, Hu YF, Tuan TC, et al. Characteristics and significance of very early recurrence of atrial fibrillation after catheter ablation. J Cardiovasc Electrophysiol 2011; 22: 1193-8. [CrossRef]
6. Xia Y, Hertervig E, Kongstad O, Ljungstrom E, Platonov P, Holm M, et al. Deterioration of interatrial conduction in patients with paroxysmal atrial fibrillation: electroanatomic mapping of the right atrium and coronary sinus. Heart Rhythm 2004; 1: 548-53. [CrossRef]
7. Camm AJ, Lip GY, De Caterina R, Savelieva I, Atar D, Hohnloser SH, et al. 2012 focused update of the ESC Guidelines for the management of atrial fibrillation: an update of the 2010 ESC Guidelines for the management of atrial fibrillation. Developed with the special contribution of the European Heart Rhythm Association. Eur Heart J 2012; 33: 2719-47. [CrossRef]

Address for Correspondence/Yazışma Adresi: Dr. Alpay Arıbaş
Necmettin Erbakan Üniversitesi, Meram Tıp Fakültesi,
Kardiyoloji Anabilim Dalı Meram, Konya-*Türkiye*
Phone: +90 332 223 78 50
E-mail: draribas@hotmail.com

Importance of multislice computed tomography angiography for the diagnosis and evaluation of silent coronary ischemia and asymptomatic acute myocardial infarction: long-term follow-up of three cases

Sessiz koroner iskemisinin ve semptomsuz akut miyokart enfarktüsünün tanısında ve değerlendirilmesinde çok kesitli bilgisayarlı koroner kalp tomografisinin önemi: Uzun dönem takip edilmiş üç olgu

Multislice computed tomography angiography (MSCTA) is a very useful and an important tool for the noninvasive evaluation, intervention and cure of coronary arterial pathology (1-12). We present the assessment of three patients with coronary artery disease (a 88- year old man, 62 -year old man and 66 year- old man, using a MSCTA coronary angiography (64-320 slice technology), that was firstly described by Leschka S (5).

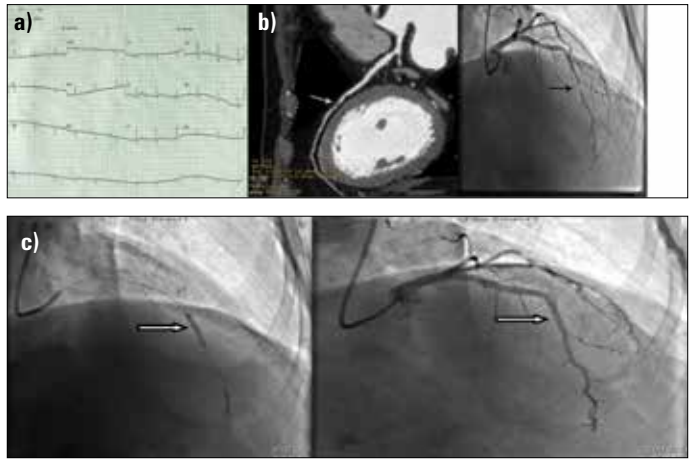

Figure 1. This figure shows first patient's ECG (a), MSCTA (b), and angiography and stent implantation (c)
ECG - electrocardiogram, MSCTA - multislice computed tomography angiography

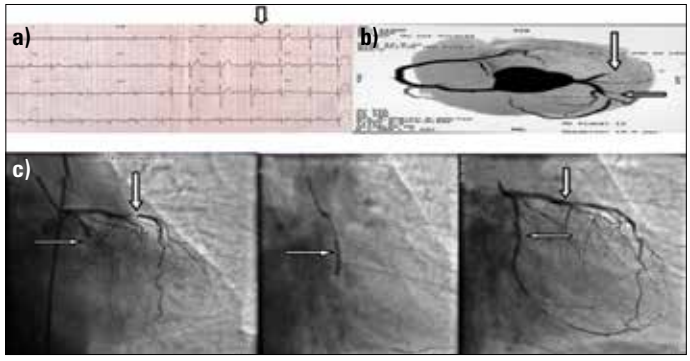

Figure 2. This figure illustrates ECG (a), MSCTA (b), and angiography views and stents implantation for totally occluded Cx and strictly stenosed LAD lesion (c) of case 2

Cx - circumflex coronary artery, ECG - electrocardiogram, LAD - left anterior descending artery, MSCTA - multislice computed tomography angiography

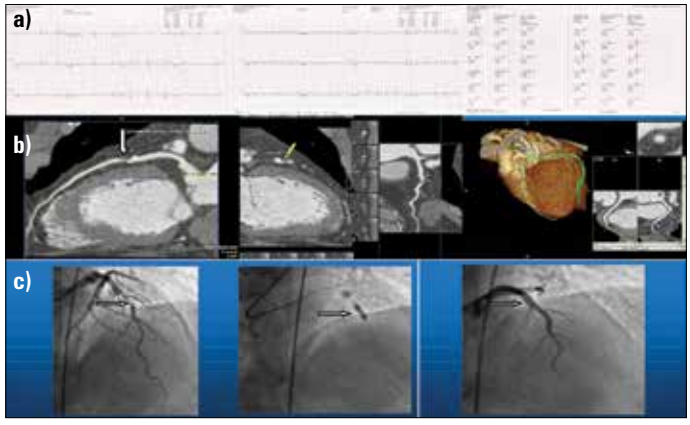

Figure 3. This figure shows ECG (a), MSCTA (b), and angiography views before and after stent to LAD lesion (c) of case 3

ECG - electrocardiogram, LAD - left anterior descending artery, MSCTA - multislice computed tomography angiography

First patient was admitted to the Cardiology Department with trivial exercise dyspnea, and palpitation from time- to time- lasting for about one month in 2007. Electrocardiogram (ECG) and exercise ECG were normal (Fig. 1). The patient denied coronary angiography, and 64-slice MSCTA was performed. The left anterior descending coronary artery (LAD) with vulnerable soft plaque leading to severe coronary artery stenosis (%95) at the middle segment was detected by coronary angiography and the result was completely parallel to MSCTA. Percutaneous coronary intervention (PCI) was performed for LAD lesion and drug-eluting stent was implanted after predilatation. The patient was examined routinely and is completely asymptomatic for more than six years.

Second diabetic patient was admitted with trivial swelling after routine insulin injection. His cardiac enzymes were elevated which were taken routinely before admittance to our clinic. His ECG (Fig. 2) showed that the slightly prominent and non-significant T waves on V2-3 leads. On MSCTA (320-sclice), a completely total occlusion of the left circumflex artery proximal segment and critical stenosis (98%) at the middle segment of LAD were detected and invasive coronary angiography was performed on the same day. The result was in agreement with MSCTA findings. This patient has had an acute asymptomatic posterior myocardial infarction. PCI with predilatation was performed firstly for totally occluded circumflex artery, which was opened successfully, and drug-eluting stent was implanted. Again predilatation was performed to the critical LAD lesion and drug-eluting stent was implanted. The patient is followed up routinely. He is asymptomatic for more than three years after the procedure.

The third patient. a 66-year-old man, , was examined routinely without any complaints. His resting ECG was normal, however during 4th stage of exercise ECG an atypical chest pain occurred without ST-T changes. His MSCTA (320-slice) surprisingly showed 95% narrowing LAD lesion with adventitial calcifications (Fig. 3). This lesion was similar to his coronary angiography and at the same time metal bare stent implantation was performed. Since then, he has been working very hard without any complaints and symptoms.

We conclude that the MSCTA is a very important tool for diagnosis and evaluation of coronary lesions. In addition, it is an important guide for cure of silent ischemia and myocardial infarction, particularly to persuade denying patients for invasive coronary angiography.

Faruk Erzengin, Ramime Özel, Mustafa Özcan, Hüseyin Oflaz, Kamil Adalet
Department of Cardiology, Faculty of Medicine, İstanbul University, İstanbul-*Turkey*

References

1. Wilson GT, Gopalakrishnan P, Tak T. Noninvasive cardiac imaging with computed tomography. Clin Med Res 2007; 5: 165-71. [CrossRef]
2. Saia F, Schaar J, Regar E, Rodriguez G, De Feyter PJ, Mastik F, et al. Clinical imaging of the vulnerable plague in the coronary arteries: new intracoronary diagnostic methods. J Cardiovasc Med (Hagerstown) 2006; 7: 21-8. [CrossRef]
3. Schroeder S, Kopp AF, Baumbach A, Meisner C, Kuettner A, Georg C, et al. Noninvasive detection and evaluation of atherosclerotic coronary plaques with multislice computed tomography. J Am Coll Cardiol 2001; 37: 1430-5. [CrossRef]
4. Hoffmann U, Ferencik M, Cury RC, Pena AJ. Coronary CT angiography. J Nucl Med 2006; 47: 797-806.
5. Leschha S, Alkadhi H, Plass A, Desbiolles L, Grünenfelder J, Merincek B, et al. Accuracy of MSCT coronary angiography with 64-slice technology: First experience. Eur Heart J 2005; 26: 1482-7. [CrossRef]
6. Hendel RC, Patel MR, Kramer CM, Poon M, Hendel RC, Carr JC, et al; American College of Cardiology Foundation Quality Strategic Directions Committee Appropriateness Criteria Working Group; American College of Radiology; Society for Cardiovascular Magnetic Resonance; American Society of Nuclear Cardiology; North American Society for Cardiac Imaging; Society for Cardiovascular Angiography and Interventions; Society of Interventional Radiology. ACCF/ACR/SCCT/SCMR/ASNC/NASCI/SCAI/SIR 2006 appropriateness criteria for cardiac computed tomography and cardiac magnetic resonance imaging: a report of the American College of Cardiology Foundation Quality Strategic Directions Committee Apporpriateness Criteria Working Group, American College of Radiology, Society of Cardiovascular Computed Tomography, Society for Crdiovascular Magnetic Resonance, American Society of Nuclear Cardiology, North American Society for Cardiac Imaging, Society for Cardiovascular Angiography and Interventions, and Society of Interventional Radiology. J Am Coll Cardiol 2006; 48: 1475-97. [CrossRef]
7. Budoff MJ, Achenbach S, Blumenthal RS, Carr JJ, Goldin JG, Greenland P, et al; American Heart Association Committee on Cardiovascular Imaging and Intervention; American Heart Association Council on Cardiovascular Imaging and Intervention; American Heart Association Committee on Cardiovascular Imaging, Council on Clinical Cardiology. Assessment of coronary artery disease by cardiac computed tomography. A scientific statement from the American Heart Association Committee on Cardiovascular Imaging and Intervention, Council on Cardiovascular Radiology and Intervention, and Committee on Cardiac Imaging, Council on Clinical Cardiology. Circulation 2006; 114: 1761-91. [CrossRef]
8. Achenbach S, Moselewski F, Ropers D, Ferencik M, Hoffmann U, MacNeill B, et al. Detection of calcified and noncalcified coronary atherosclerotic plaque by contrast-enhanced, submillimeter multidetector spiral computed tomography: a segment-based comparison with intravascular ultrasound. Circulation 2004; 109: 14-7. [CrossRef]
9. Kopp AF, Schroeder S, Baumbach A, Kuettner A, Georg C, Ohnesorge B, et al. Non-invasive characterisation of coronary lesion morphology and composition by multislice CT: first results in comparison with intracoronary ultrasound. Eur Radiol 2001; 11: 1607-11. [CrossRef]

10. Dirksen MS, Bax JJ, de Ross A, Jukema JW, van der Geest RJ, Geleijns K, et al. Usefulness of dynamic multislice computed tomography of left ventricular function in unstable angina pectoris and comparison with echocardiography. Am J Cardiol 2002; 90: 1157-60. [CrossRef]
11. Erzengin F, Büyüköztürk K. Cardiac Imaging, Internal Medicine. 2nd Edit: Prof. Dr. K. Büyüköztürk. İstanbul; Nobel Tıp; 2007. p.1663-86.
12. Cademartiri F, Maffei E, Mollet NR. Is dual-source CT coronary angiography ready for the real world? Eur Heart J 2008; 29: 701-3. [CrossRef].

Address for Correspondence/Yazışma Adresi: Prof. Dr. Faruk Erzengin
İstanbul Üniversitesi, İstabul Tıp Fakültesi, Çapa, İstanbul-*Türkiye*
Phone: +90 532 453 51 79
E-mail: farukerzengin@gmail.com
Available Online Date/Çevrimiçi Yayın Tarihi: 22.04.2013

doi:10.5152/akd.2013.122

Life-long oral anticoagulant therapy and rupture of corpus luteum

Yaşam boyu oral antikoagülan tedavisi ve korpus luteum rüptürü

Mechanical heart valve prostheses have a high thromboembolic potential. There is therefore no doubt that those patients need to receive life-long oral anticoagulant (OAC), which, unfortunately, is associated with an increased risk of hemorrhagic complications (1).

Ovarian hemorrhages is rarely seen in healthy women and usually has a little clinical importance. However, more serious and even life-threating bleeding episodes have been described in women treated with anticoagulants (2, 3).

We reported results of ten patients under sodium warfarin treatment, who presented with ovarian hemorrhage. Therefore, we aimed to take attention on this life threating rare condition.

Between January 2008 to July 2009, ten charts of patients who had been receiving OAC for prosthetic heart valves and treated surgically for intraabdominal hemorrhage as a result of ruptured corpus luteum were analyzed retrospectively. Additionally, follow-up treatment modalities were assessed by phone interview.

Patients' demographic data, biochemical and hematologic parameters, surgical procedure, volume of intraabdominal bleeding, transfusion characteristics are demonstrated in Table 1. None of patients was using effective contraceptive method at time of admission.

All patients were discharged with advice of a depot medroxyprogesterone acetate (DPMA) for ovulation suppression in follow-up treatment. Nine of the ten patients were contacted by phone interview in order to determine if they used follow-up treatment or not. The time interval between operation time and phone interview ranged between 32-43 months. Eight women started to use DMPA a month after the operation till day of interview. None of these patients experienced any ovarian bleeding episode until now. 3 of them also stated that they have been amenorrheic since 6 months after DMPA, and 5 of them mentioned oligomenorrhea. Bloating, headache and breast tenderness were the reported complaints in 2, 2, and 1 patients, respectively.

Table 1. Patients characteristics and surgical properties

Case	Age	Gynecologic history	Duration of OAC (Months)	Admission hemoglobin g/dL	Admission INR	Amount of hemoperitoneum	Surgery	Require second surgery	Blood transfusion
1•	33	G1P1	60	7.4	4.3	2000 cc + 800 cc	Suturing	Yes (SOF)	8 U FFP 3 U RBC
2*◆	43	G3P2	120	8.5	2.8	800 cc	SOF	No	4 U FFP 2 U RBC
3*◆	35	G2P2	83	7.9	>5	1500 cc	Suturing	No	7 U FFP 3 U RBC
4•	33	G6P4	22	7	>5	2000 cc	SOF	No	8 U FFP 4 U RBC
5•	32	G0P0	11	5.5	>5	3000 cc	SOF	No	8 U FFP 6 U RBC
6◆□	24	G1P0	46	6	3.6	3500 cc	SOF	No	4 U FFP 4 U RBC
7*•	36	G1P1	36	6.5	>5	1900 cc	Suturing	No	4 U FFP 2 U RBC
8*•	39	G3P3	892	6.8	4.9	2400 cc	Suturing	No	5 U FFP 4 U RBC
9	32	G0P0	23	5.7	4.8	2300 cc	Suturing	No	6 U FFP 4 U RBC
10*□•	40	G4P3	144	7.5	3.9	1800 cc	SOF	No	4 U FFP 3 U RBC

*Patients receiving concomitant 80mg/day aspirin therapy; ◆Patients had a history of previous surgery for ruptured corpus luteum, □ Patients with regular cardiology visit; • Patients had a ruptured corpus luteum on the right side.
DPMA - depot medroxy progesterone acetate, FFR - fresh frozen plasma, G - gravida, OAC - oral anticoagulant, OC - oral contraceptive pill, P - parita, RBC - red blood cell, SOF - salpingooopherectomy