

## Choosing cohort for epidemiologic studies

### *Epidemiyolojik çalışmalarda kohort seçimi*

Dear Editor,

We just want to point out that whether the manuscript titles are actually reflecting the author's cohort selection methods in three articles published in October 2008 issue of Anatolian Journal of Cardiology. We notified that Ozsait et al (1) clearly explained their population selection methods to become valid in Turkish adults. However, we did not find similar explanation in Alioglu et al's study (2) entitled as "G protein beta3 subunit gene polymorphism in Turkish hypertensives". In this study the authors comprised their study population from 209 hypertensive patients and 82 healthy subjects living in a particular area. Therefore, we have a doubt that whether the results of this study can be extrapolated to Turkish hypertensive patients as claimed in the title. Furthermore, we thought that Tanyolac et al's study (3) had similar methodological flaw in cohort selection for their conclusions to be true in an overweight and obese Turkish female population. In conclusion, the selection of study populations should be planned in such a way that it may reflect universe of target patient population as we mentioned previously (4).

**Oben Baysan, Mehmet Yokuşoğlu**  
Department of Cardiology, Gülhane Military Medical Academy,  
Ankara, Turkey

### References

1. Özsait B, Kömürcü Bayrak E, Poda M, Can G, Hergenç G, Onat A, et al. CETP TaqIB polymorphism in Turkish adults: association with dyslipidemia and metabolic syndrome. *Anadolu Kardiyol Derg* 2008; 8: 324-30.
2. Alioğlu E, Ercan E, Tengiz I, Yıldız A, Önsel Türk U, Saygı S, et al. G protein beta3 subunit gene polymorphism in Turkish hypertensives. *Anadolu Kardiyol Derg* 2008; 8: 331-5.
3. Tanyolaç S, Sertkaya Çıkım A, Doğan Azezli A, Orhan Y. Correlation between educational status and cardiovascular risk factors in an overweight and obese Turkish female population. *Anadolu Kardiyol Derg* 2008; 8: 336-41.
4. Yokuşoğlu M, Uzun M, Baysan O. Can a city population represent a whole country? Essentials of study design for epidemiologic studies. *Anadolu Kardiyol Derg* 2008; 8: 174-5.

**Address for Correspondence/Yazışma Adresi:** Dr. Mehmet Yokuşoğlu  
GATA Department of Cardiology, Ankara, Turkey  
Phone: +90 312 304 42 67 Fax: +90 312 304 42 50  
E-mail: myokusoglu@yahoo.com - myokusoglu@gata.edu.tr

Author reply

Dear Editor,

We thank authors for their letter in reference to our article entitled "G protein beta3 subunit gene polymorphism in Turkish hypertensives" that was recently published in *Anadolu Kardiyoloji Dergisi* (1). The authors have criticized that the method of the study does not reflect a study title. The aim of our study was to investigate relationship between essential hypertension and G protein beta3 subunit gene polymorphism. Unrelated hypertensive Caucasians of Turkish descent residing in the same geographic region that had a similar socio-economic level were included in our study. The expression "Turkish hypertensives" was used to indicate, that the study population selected from cases residing in Turkey. We accept that cases were selected from one region could not represent the all Turkish

hypertensives. However, genetic-based association studies published in the international journals frequently use similar expressions (French, Italian, Japanese etc.).

**Ertuğrul Ercan**  
Department of Cardiology, Onsekiz Mart School of Medicine,  
University of Çanakkale, Çanakkale, Turkey

**Address for Correspondence/Yazışma Adresi:** Prof. Dr. Ertuğrul Ercan  
Department of Cardiology, Onsekiz Mart School of Medicine, University of  
Çanakkale, Terzioğlu Yerleşkesi 17100 Çanakkale, Turkey  
Phone: +90 286 218 00 18-1999 Fax: +90 286 218 03 93  
E-mail: ertugrulercan@yahoo.com

Author reply

Dear Editor,

I have read the comments and concerns of our original article entitled "Correlation between educational status and cardiovascular risk factors in an overweight and obese Turkish female population." It was published in October 2008 *Anatolian Journal of Cardiology*. The concerns on the comments for this article mainly consisted of the study population description which does not represent whole hypertensive and overweight and obese Turkish female population. I had stated in both my title and in my study limitation that this study was not about representing the whole hypertensive and overweight and obese Turkish female population. This study was a retrospective hospital database study.

Sincerely,  
**Sinan Tanyolaç**  
Department of Medicine and Diabetes Center,  
University of California, San Francisco/Mt.Zion Medical Center,  
San Francisco, California, USA

**Address for Correspondence/Yazışma Adresi:** Sinan Tanyolaç M.D.  
Department of Medicine and Diabetes Center,  
University of California, San Francisco/Mt.Zion Medical Center,  
San Francisco, California, 94143, USA  
Phone: +1 415 885 7429 Fax: +1 415 885 3787  
E-mail: stanyolac@gmail.com

## Assessment of aortic stiffness and ventricular functions in familial Mediterranean fever

### *Ailevi Akdeniz ateşinde aortik sertleşme parametrelerinin ve ventrikül fonksiyonlarının değerlendirilmesi*

Dear Editor,

I have one question and some additional comments for 'Assessment of aortic stiffness and ventricular functions in familial Mediterranean fever', which was published in the August 2008 issue of your journal belonging to Sari I et al. (1).

- 1- The incidence for pericarditis/pericardial effusion was reported as 1.3-3.6 % during acute crisis of familial Mediterranean fever inside the manuscript, which this was reported in the literature previously with such a high value among young males as 23.3% (2). I am pointing this for the benefit of the journal readers.

- 2- If we consider the formulas utilized for aortic elasticity measurements as well as tricuspid annular plane systolic excursion (TAPSE), which can be affected from the heart rate, neither the heart rates of the subjects nor the aortic elasticity formulas indexed to heart rate was reported anywhere inside the manuscript (2, 3). Do heart rates belonging to both groups are in an acceptable intervals, which may be sensitive and easily affectable in terms of aortic elasticity and TAPSE formulations?
- 3- Statistical analyses were performed considering both male/female as a unique group. To our knowledge hormonal changes besides heart rate also affects the parameters for aortic elasticity formula. (3-6). In my point of view, I recommend this statistical analysis to be performed by sex taken into account individually, and mentioned this in the method part of the manuscript.

Kind Regards

**Rifat Eralp Ulusoy**  
Cardiology Section, GATA Haydarpaşa Teaching Hospital,  
Üsküdar, İstanbul, Turkey

### References

1. Sarı I, Arıcan O, Can G, Akdeniz B, Akar S, Birlık M, et al. Assessment of aortic stiffness and ventricular functions in familial Mediterranean fever. *Anadolu Kardiyol Derg* 2008; 8: 271-8.
2. Terekeci HM, Ulusoy ER, Küçükarslan N, Nalbant S, Oktenli Familial Mediterranean fever attacks do not alter functional and morphologic tissue Doppler echocardiographic parameters. *C. Rheumatol Int* 2008; 28: 1239-43.
3. Ulusoy RE, Demiralp E, Kırılmaz A, Kılıçaslan F, Özmen N, Küçükarslan N, et al. Aortic elastic properties in young pregnant women. *Heart Vessels* 2006; 21: 38-41.
4. Karpanou EA, Vyssoulis GP, Papakyriakou SA, Toutouza MG, Toutouzas PK. Effects of menopause on aortic root function in hypertensive women. *J Am Coll Cardiol* 1996; 15: 1562-6.
5. Stefanadis C, Dernellis J, Vavuranakis M, Tsiamis E, Vlachopoulos C, Toutouzas K, et al. Effects of ventricular pacing-induced tachycardia on aortic mechanics in man. *Cardiovasc Res* 1998; 39: 506-14.
6. Stefanadis C, Stratos C, Boudoulas H, Kourouklis C, Toutouzas P. Distensibility of the ascending aorta: comparison of invasive and non-invasive techniques in healthy men and in men with coronary artery disease. *Eur Heart J* 1990; 11: 990-6.

**Address for Correspondence/Yazışma Adresi:** Dr. Rifat Eralp Ulusoy  
Cardiology Section, GATA Haydarpaşa Teaching Hospital  
Selimiye Mah. Tibbiye Cad. 34668 Üsküdar, İstanbul, Turkey  
Phone: +90 216 542 20 20 Fax: +90 216 348 78 80  
E-mail: reulusoy@gata.hpsa.edu.tr

Author reply

Dear Editor,

We thank to authors for their comments on our previous article "Assessment of aortic stiffness and ventricular functions in familial Mediterranean fever" (1). Familial Mediterranean fever (FMF) is a hereditary autoinflammatory disease characterized by the inflammation of serous membranes (2). The pericardium is one of the affected tissues during the acute period and authors identified a high frequency of pericardial effusion (23.3%) in young male patients with FMF during acute attacks (3). The authors stated that heart rate might affect the aortic elastic indices, and tricuspid annular plane systolic excursion (TAPSE) measurement. However, it has been reported that TAPSE can be easily measured in all patients irrespective of heart rate and rhythm and therefore tachycardia or atrial fibrillation does not limit its usefulness (4). On the other hand, estimation of aortic elastic indices, namely aortic strain, aortic stiffness

index and aortic distensibility are calculated from the echocardiographically-derived aortic diameters and the clinical blood pressure. The equations of these indices do not require heart rate variable (5, 6). Anyway, in our study, patients and controls had similar heart rates and the range of the heart rate was in normal limits (Table 1).

The authors were also curious about the impact of gender on the aortic elastic parameters in our study. To satisfy the authors' curiosity we made a subgroup analysis and when groups were stratified by gender, we did not find any difference regarding aortic elastic properties between patients and healthy subjects in both women and men (Table 1). In conclusion, aortic elastic parameters seem not to be affected in FMF patients during attack free periods. Further studies are needed to determine the impact of acute attacks with respect to aortic elastance.

**Table 1. Demographic and echocardiographic results of the study group according to the gender**

	FMF patients (n=44)		Healthy Controls (n=27)	
	Men (n=21)	Women (n=23)	Men (n=12)	Women (n=15)
Age, years	31±16	30±13	31±5	30±9
Body mass index, kg/m <sup>2</sup>	24.8±4.6	23.4±7	25.8±4.8	22±2.7
Heart rate, beats per minute	76±10	74±8	74±8	75±9
Pulse pressure, mmHg	41±16	39±20	42±13	43±10
Mitral E/A ratio	1.4±0.49	1.4±0.75	1.43±0.55	1.48±0.37
Tricuspid E/A ratio	1.35±0.38	1.5±0.67	1.4±0.3	1.5±0.35
Vp, cm/s	57.5±23	67±22**	72.5±18	76±28
TAPSE, cm	20±4*	20±2**	25.5±9	23.5±6
Mitral Em/Am ratio	1.78±1.02	1.75±0.7	1.92±1.78	1.78±1.42
Tricuspid Em/Am ratio	0.92±0.28*	1.12±0.5**	1.31±0.44	1.46±0.3
Aortic strain, %	5.14±7.4	8.5±6.7	4.25±2.9	7.86±7.4
Aortic stiffness index	7.3±8.7	5.1±4.6	12.3±10	5.8±5.4
Aortic distensibility, 10 <sup>-3</sup> /kPa	20.2±21.9	32.9±34.4	13.2±16.3	30.8±32.5

Data are expressed as mean±SD  
Mann-Whitney U test Indicates statistically significant difference (p<0.05) between \*men with FMF and healthy men, and \*\* women with FMF and healthy women.  
A- myocardial atrial contraction diastolic flow velocity, E- myocardial early diastolic flow velocity, FMF- familial Mediterranean fever, TAPSE- tricuspid annular plane systolic excursion, Vp- ventricular propagation velocity

**İsmail Sarı, Fatoş Önen<sup>1</sup>**  
Section of Rheumatology, Department of Internal Medicine, İzmir Bozyaka Education and Research Hospital, İzmir  
<sup>1</sup>Section of Immunology and Rheumatology, Department of Internal Medicine, Dokuz Eylül University, İzmir, Turkey

### References

1. Sarı I, Arıcan O, Can G, Akdeniz B, Akar S, Birlık M, et al. Assessment of aortic stiffness and ventricular functions in familial Mediterranean fever. *Anadolu Kardiyol Derg* 2008; 8: 271-8.

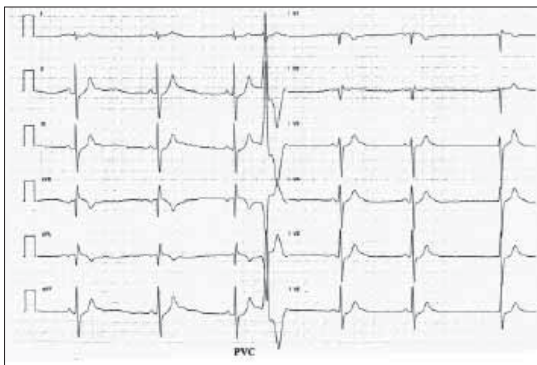
2. Onen F. Familial mediterranean Fever. Rheumatol Int 2006; 26: 489-96.
3. Terekeci HM, Ulusoy ER, Küçükarslan NM, Nalbant S, Oktenli C. Familial Mediterranean fever attacks do not alter functional and morphologic tissue Doppler echocardiographic parameters. Rheumatol Int 2008; 28: 1239-43.
4. Ghio S, Recusani F, Klersy C, Sebastiani R, Laudisa ML, Campana C, et al. Prognostic usefulness of the tricuspid annular plane systolic excursion in patients with congestive heart failure secondary to idiopathic or ischemic dilated cardiomyopathy. Am J Cardiol 2000; 85: 837-42.
5. Stefanadis C, Stratos C, Boudoulas H, Kourouklis C, Toutouzas P. Distensibility of the ascending aorta: comparison of invasive and non-invasive techniques in healthy men and in men with coronary artery disease. Eur Heart J 1990; 11: 990-6.
6. Stefanadis C, Stratos C, Vlachopoulos C, Marakas S, Boudoulas H, Kallikazaros I, et al. Pressure-diameter relation of the human aorta. A new method of determination by the application of a special ultrasonic dimension catheter. Circulation 1995; 92: 2210-9.

**Address for Correspondence/Yazışma Adresi:** Prof. Dr. Fatoş Önen  
Department of Internal Medicine Immunology, Rheumatology,  
Dokuz Eylül University, İzmir, Turkey  
Phone: +90 232 412 37 81 Fax: +90 232 279 27 39  
E-mail: fatos.onen@deu.edu.tr

## A case of exercise-induced sinus node deceleration without evident coronary artery disease

### *Ciddi koroner lezyonu olmayan hastada egzersizin tetiklediği bir sinüs nod deselerasyonu vakası*

Sinus node deceleration (SND) has been described as an initial increase and subsequent decrease in heart rate with exercise while having higher work load. Exercise-induced SND was firstly reported by Miller and Gibbons (1). Takeuchi et al. (2) reported that it occurs about 1% of patient during exercise stress testing and 8% of patient during dobutamine stress testing. We faced to just only one case between 2000-2006 years. The patient was 47 years old and he has a history of stenting to the left anterior descending artery before 3 years ago. A treadmill exercise stress test was performed at the routine control. During the test, the heart rate steadily increased up to 130beats/min and then immediately decreased up to 25beats/min with complaining of dizziness and near syncope. Electrocardiography was revealed sinus bradycardia with rare ventricular extra systoles and no ischemic ST-T changes (Fig. 1).



**Figure 1.** The sinus node deceleration with ventricular premature contraction is seen on electrocardiogram recorded during exercise treadmill test. There are no ST-T changes indicating probable ischemia in any leads

In literature, Gündüz et al. reported a case of SND with two-vessel disease including severe ostial right coronary artery stenosis (RCA) (3). Although first reports discussed that SND might be a marker of significant RCA lesion, later reports demonstrated that SND could be also seen without significant coronary lesion (2, 4, 5). The sensitivity of dobutamine induced SND was 7% for significant RCA lesion, specificity was 92% and the overall diagnostic accuracy was 65%, these results according to them showed that SND is a relatively common during dobutamine stress echocardiography but its importance as a marker of significant RCA lesion was limited due to the high incidence of false positive results (2). Hopfenspirger et al. (5) reported that SND was observed in 10 of 58 patients (17%) during dobutamine perfusion scintigraphy, all of these patients had an inferior perfusion defect and 9 of 10 patients had reversible perfusion defect which was notable for myocardial ischemia, however their study group was relatively small and there was no coronary angiography available. Attenhofer et al. (4) also reported that SND induced by dobutamine was observed in 14 of 181 patients undergoing both coronary angiography and dobutamine echocardiography, they detected that significant coronary artery disease was present only in eight patients and they found no increased prevalence in patient with SND for RCA lesion.

The mechanisms of SND during exercise are thought to be mainly due to increased provocation of the Bezold-Jarisch reflex caused by inferior ischemia or direct sinus node ischemia or coronary angiography or intrinsic sinus node dysfunction. It is also manifested by vigorous myocardial contraction with the drugs (dobutamine, isoproterenol) or exercise. Activation of this reflex leads to both an increase in parasympathetic activity and also a decrease in sympathetic activity resulting in bradycardia, vasodilatation and hypotension. Because the patient was asymptomatic and there was not any available proof of ischemia in the exercise test, we thought that the most probable mechanism of the SND is the Bezold-Jarisch reflex. For this reason, we preferred multislice computed tomography (CT) as a non-invasive imaging method. Multislice CT revealed that the RCA was completely normal and the stent was patent (Fig. 2, 3). Any cardiovascular event was not seen during two years follow-up.

As a result, non-invasive approaches such as CT angiography could be preferred instead of invasive coronary angiography if there is not available high suspicion of significant coronary lesion. This approach may substantially remove this suspicion from both clinician and patient.



**Figure 2.** A computed tomography angiography image shows the normal right coronary anatomy without any evident lesion along