Polycystic ovary syndrome and arrhythmic risk: the role of comorbidities and the prevalence of interatrial block

To the Editor,

We have read with great interest the article by Bayır PT et al. (1) entitled "Assessment of atrial electromechanical interval and P wave dispersion in patients with polycystic ovary syndrome" recently published in Anatol J Cardiol 2016; 16: 100-5. The authors, investigating several echocardiographic (atrial electromechanical delay) and electrocardiographic parameters (P wave duration and dispersion) predictive of atrial fibrillation, showed an increased interatrial and intra-atrial conduction times in patients affected by polycystic ovary syndrome (PCOS) compared to healthy women group without clinical and laboratory features of PCOS. As the authors underline, the PCOS study population showed increased left atrium diameters and impaired diastolic function parameters; these findings support the hypothesis that increased atrial conduction times might not be related per se to PCOS but might be a consequence of relatively impaired left ventricular diastolic function and atrial enlargement. According to our opinion, this is a point of pivotal importance, because it may affect the arrhythmologic management of patients with PCOS and, in particular, the timing of careful monitoring for early detection of atrial fibrillation. We suggest the authors to perform their electrocardiographic and echocardiographic analyses in PCOS patients with no structural or functional echocardiographic abnormalities, including the atrial mechanical function evaluation, and to correlate their results to the serum testosterone and estradiol levels (2). Furthermore, it should be noted that in other clinical scenarios, P-wave parameters, other than P-wave dispersion, are risk predictors of supraventricular arrhythmias and notably of stroke (3–5). Specifically, we refer to P-wave duration—the hallmark of interatrial block (IAB)—that Bayır PT et al. (1) measured but not discussed, thereby losing the opportunity to first report the prevalence of IAB in a PCOS population. Moreover, by analyzing the P-wave morphology in inferior leads, they could identify the advanced form of IAB, characterized by biphasic (+/–) P wave in leads II, III, and aVF, which is a stronger electrocardiographic predictor of atrial fibrillation and embolic stroke than P wave duration.

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Author`s Reply

To the Editor,

We would like to thank the authors for their invaluable contributions to our article entitled 'Assessment of atrial electromechanical interval and P wave dispersion in patients with polycystic ovary syndrome' published in Anatol J Cardiol 2016; 16: 100-5 (1). In this article, we aimed to evaluate atrial electromechanical intervals and electrocardiographic P-wave indices related to increased atrial fibrillation risk in patients with polycystic ovary syndrome.

Polycystic ovary syndrome is the constellation of several clinical alterations sharing many similarities with metabolic syndrome. Since polycystic ovary syndrome is not solely a cardiac arrhythmia syndrome, polycystic ovary syndrome is not 'per se' related with the increased atrial conduction times. As in the case of metabolic syndrome, accompanying low-grade inflammation and hormonal and metabolic abnormalities are responsible for the increase in the cardiovascular risk of the patients with polycystic ovary syndrome. We speculated that the possible mechanisms operating on the atrial electromechanical intervals and P-wave indices are subtle alterations in diastolic functions, low-grade inflammation, and sex hormone levels. Additionally, alterations in the atrial geometry may also cause atrial electrical abnormalities in polycystic ovary syndrome. On the other hand, these fine alterations do not always mean clinical abnormalities. In our study, which enrolled newly diagnosed polycystic ovary syndrome patients, both polycys-

tic ovary syndrome and control groups consisted of relatively young subjects with 'normal-sized' atria, and polycystic ovary syndrome group had larger but still normal-sized atria compared to control subjects. We totally agree with the authors' suggestions concerning evaluation of atrial mechanical function, which would increase the scientific value of the hypothesis speculated here. Furthermore, as we expressed in study limitations, we also considered evaluating insulin resistance, inflammation (via hs-CRP), and hormones (estradiol, progesterone, and testosterone); however, we did not have this opportunity due to funding.

Interatrial block is usually defined as P-wave duration ≥120 ms on any surface derivation of surface electrocardiogram, and presence of interatrial block is supposed to be related with atrial fibrillation, stroke, and supraventricular tachycardia (2). Prevalence of this under-recognized electrocardiographic diagnosis increases with age and also with left atrial enlargement, which was reported as 32.8% in a general hospital population and 9.1% in men aged under 35 years (3, 4). Considering that our study had limited number of subjects, reporting a prevalence of intraatrial block in polycystic ovary syndrome population may be disputed. However, merely for having an opinion, 5 of 40 subjects with polycystic ovary syndrome had P-wave duration ≥120 ms, which corresponds to a prevalence of 12.5%. On the other hand, none of control subjects had interatrial block and, unfortunately, we did not analyze P-wave morphology, which may be topic for a new and more comprehensive study.

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A pilot study on salt taste sensitivity threshold in Turkish young adults

To the Editor,

High salt consumption is associated with chronic diseases and cardiovascular events, especially hypertension. People with low salt sensitivity are likely to increase their salt consumption in order to achieve "nice" tastes; high amounts of salt consumption will decrease the sensitivity, which will lead to them consuming more salt in order to achieve taste satisfaction. Reduction of salt intake significantly decreases the salt taste threshold values and influence salt taste preference. The aim of this study was to determine salt taste thresholds at young individuals.

This study was conducted with 45 students [68% (n=31) female and 31% (n=14) male; mean age 23.2±3.6 years]. For assessment of salt sensitivity, eight glasses with salt containing solutions at different dilutions and 8 glasses with distillated water opposite to them were used. These solutions were prepared at concentrations of 2, 4, 8, 16, 32, 64, 128, and 256 mmoL/L. The participants were requested to try 15 mL from these solutions, starting with the most concentrated one. After every part of the test, they flushed their mouth for 30 seconds with distillated water. The test was continued until the level when participants could not sense the salt taste (sensed equal with the control glass). Thus, the participants' salt taste determination thresholds were specified. Later, the participants tested the solutions in the same way by starting from the most diluted one. The test was continued until the level at which the participants sensed the salt taste (sensed different from the control glass), and these values were specified as participants' salt taste recognition thresholds.

The mean salt taste recognition threshold of the participants was determined as 12.4±5.6 mmoL/L, and the mean salt taste determining threshold was 20.7±19.9 mmoL/L. The mean salt taste recognition threshold of females were significantly lower than that of males (p=0.04), but there was no meaningful difference among their salt taste determining thresholds (p=0.190). Half of participants (55.5%) have recognized salt taste at a level of 16.0 mmoL/L and 31.1% at a level of 8 mmoL/L.

Salt taste threshold values were reported in the literature to range between 5 and 43.3 mmoL/L (1–5). These differences between countries may be resulting from nutritional habit discrepancies. Cultural factors influence the nutritional behavior of individuals. Salt-free food is perceived as "tasteless" in the Turkish society. The reason may be feeding with highly salty food in childhood.

It is hard to decrease salt consumption at the community level. Compliance to programs, where salt consumption is reduced, is low. It was indicated that 10%–20% yearly or bi-yearly reduction of salt intake should be carried out, which is non-detectable by human salt taste receptors but significantly decreases the salt taste threshold values and influence salty taste preference.