

as the determinant of CAE ." It is no doubt that YKL-40 might be applied as a good cardiac biomarker. However, there are many concerns of this biochemical test. First, as it is widely discussed, this biomarker is considered a non - specific marker (3). Its increase level can be due to many causes and if there is no good ruling out of other concomitant disease, the application as cardiac marker can lead to misinterpretation. Second, the standardization of the technique is very important. At least, the consensus to develop the international laboratory procedure guideline and reference range setting is needed. Bojesen et al. (4) found that "plasma YKL-40 increases with age within and across healthy individuals from the general population " and concluded for the necessity of "age-stratified or age-adjusted reference levels"

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Author`s Reply

To the Editor,

We would like to thank the authors for their comments on our article (1) entitled as 'YKL-40 as new cardiac biomarker' in *Anadolu Kardiyol Derg* 2013; 13: 465-70. The aim of our study was to investigate YKL-40 and C-reactive protein (CRP) levels in patients with isolated CAE compared to patients with normal coronary arteries (NCA) and coronary artery disease (CAD). We demonstrated increased serum YKL-40 levels without increased systemic inflammatory response (The serum C-reactive protein [CRP] concentration was used as a surrogate marker of systemic inflammation) in patients with isolated CAE. YKL-40 as well as CRP might be non-specific markers of inflammation; however both are strong predictors of cardiovascular outcome (2). Therefore, in the event of carefully selected study population with a matching control group, our results carry important predictive and diagnostic meaning. As the authors stated that YKL-40 may be increased by ageing, we performed multivariate analyzes and did not identify YKL-40 as an inde-

pendent factor for CAE. We may hypothesize that YKL-40 may reflect silent atherosclerosis in a group of healthy people with varying ages (2), however; in a carefully constructed group by means of diagnostic coronary angiography, YKL-40 may be related to atherosclerosis but not to aging as documented in our study. We do share the opinion of the authors on standardization of the technique.

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The relationship between neutrophil-to-lymphocyte ratio and coronary artery disease

To the Editor,

We read the article "Relation of neutrophil-to-lymphocyte ratio with the presence and compleentitled of coronary artery disease" by Sönmez et al. (1) in *Anadolu Kardiyol Derg* 2013; 13: 662-7. The neutrophil-to-lymphocyte ratio (NLR), which represents an inflammatory state, was significantly higher in patients with coronary artery disease (CAD) compared to patients with normal coronary arteries. They concluded that NLR is a strong clinical laboratory value that is associated with presence and complexity of CAD. Thanks to the authors for their contribution.

The SYNTAX score is used for grading the complexity of CAD. It has been reported that elevated SYNTAX score is associated with higher rates of long term major adverse cardiovascular events and revascularization after percutaneous coronary intervention or coronary artery bypass graft. Stabil CAD is different from acute coronary syndrome. It is well known that this score has some limitations including the inability to estimate precisely coronary plaque burden or to identify vulnerable plaques and inter-observer variability inherent to visual estimation of vessel stenosis (2).

The complete blood count is the most available laboratory data on admission in hospital that gives to clinicians information about the patient's blood contents such as the red and white cells, platelet count and parameters such as the distribution weights and NLR. However, in some conditions including traditional risk factors (ie, hypertension, obesity, atherogenic lipoproteins and hyperglycemia) and left ventricular dysfunction or hypertrophy, valvular heart disease, abnormal thyroid function tests and hepatic dysfunction the measurement of NLR can be potentially affected (3). In the study there were significant differences between the groups regarding the diabetes mellitus, hypertension, hypercholesterolemia and the drug usage (Statin, ACE inhibitor). In a recently published study (4) 69 patients with low HDL-C (≤ 35 mg/dL) and 59 control participants (HDL-C > 35 mg/dL) with similar cardiovascular risk factors were compared. In this study the NLR was significantly elevated in patients with low HDL-C when compared with control participants. Because of its predictive value for inflammation associated disease states, the NLR has been studied a wide range of topics including cancer prognostication, identifying high risk vascular surgical patients, non-alcoholic fatty liver disease and Alzheimer's disease (5). However, there is no consensus about what is considered to be a normal value of NLR. Different studies use different values as normal or acceptable. At this point, the crucial question is: How can we manipulate the NLR to benefit patients?

The NLR is an easy available tool and facilitates retrospective analysis of prospectively maintained databases, however its use as a risk factor for cardiovascular disease should be confirmed by wide scale epidemiological studies.

Finally, NLR itself may not give sufficient information to clinicians about the chronic inflammatory disease state of the patient. So, we think that the other serum inflammatory markers such as high-sensitivity C-reactive protein (hsCRP) should be used in combination with this promising marker.

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Author's Reply

To the Editor,

We appreciate the comments offered by the authors of the letter regarding "The relationship between neutrophil-to-lymphocyte ratio and coronary artery disease" in *Anadolu Kardiyol Derg* 2013; 13: 662-7 (1). In our study, the group with high SYNTAX scores more frequently had diabetes, hypercholesterolemia, were of older age, and also had significantly elevated neutrophil-to-lymphocyte ratio (NLR) values (2). In univariate analysis, age, diabetes, hypercholesterolemia, creatinin, neutrophil and NLR were correlate with high SYNTAX score group. However, only NLR was identified an independent predictor of high SYNTAX score in the multiple logistic regression analysis (2). Although our study had some limitations and we did not measure and correlate other inflammatory markers such as Hs-CRP, it is the first study designed to evaluate NLR and complexity of coronary artery diseases (CAD).

According to the review by Bhat et al. (3) the association between NLR and cardiovascular disease such as stable coronary artery disease, acute coronary syndromes, cardiac arrhythmias, coronary bypass surgery and heart failure has been widely evaluated. Briefly, NLR is associated with arterial stiffness and high coronary calcium score, it is an independent predictor of outcome for stable coronary artery disease, high NLR level is associated with high mortality in patients with acute coronary syndromes and heart failure and again it is a prognostic marker for outcomes after coronary artery bypass grafting (3). As a result of this findings, contrary to the authors of the letter (1), its use as a risk factor for cardiovascular disease has been confirmed by large scale studies (3).

We agree with their opinion about SYNTAX score that this score has some limitations especially inability to identify vulnerable plaques or coronary plaque burden. However, Korkmaz et al. (4) showed that patients with higher atherosclerosis burden have more complex coronary artery lesions (high SYNTAX score). There still have not been any scoring system to estimate or identify vulnerable plaques. However other inflammatory markers like hs-CRP are not part of any clinical and angiographic scoring system including GRACE, SYNTAX, TIMI, STS, EuroSCORE (5-7) and the new scoring systems (8).

Because of NLR is inexpensive, clinical and routinely calculable value that will be useful maker in cardiovascular disease. Accumulating data results and future studies may be helpful in determining in risk stratification for cardiovascular diseases.

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Variety of referral centers and diagnoses of congenital heart diseases that required intervention followed-up in neonatal intensive care unit: Regional Report

Dear Editor,

Congenital Heart Diseases (CHD) are the most prevalent malformations of neonatal period with an incidence of 0.4%-0.8% in all live births (1, 2). Of these patients, 0.4% requires intervention in the neonatal period. Early diagnosis and treatment are important for lowering morbidity and mortality in CHD patients (3).

In our study, which aimed to determine demographic characteristics of the patients, diagnostic variety, referral conditions to the centers that would perform intervention, and patient admittance rate of these centers using the data obtained via retrospective review of the files of patients followed-up in the neonatal intensive care unit (NICU) of our hospital between January 2012 and 2013 and diagnosed with congenital heart disease that requires intervention (CHDRI), it was determined that a total of 984 patients had been followed-up in NICU, of whom 118 (11.9%) were diagnosed with CHD and 31 (%3) were diagnosed with

CHDRI. The mean age of the patients at the time of admission was 4.16±4.70 (1-18) days. Of the patients, 67.7% were admitted from the state hospitals of other cities. The most frequently referred CHDRI from our unit was the transposition of great arteries (45%). Of these patients, 26% died over the course of follow-up period, whereas remaining 74% were transferred to the center, where the intervention would be performed, by air ambulance. Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Training and Research Hospital was the center which accepted the highest rate of patients (22.5%) from our center for intervention.

Considering that the mean birth rate is 1.78% in our country, approximately 12.000 newborns with CHD are encountered each year. It can be estimated that more than half of these patients would be included in the pool of cardiac surgery. In Turkey, approximately 4,000 surgeries are performed each year for CHD, which indicates that each year 2.000 patients have no chance for surgery. This number increases with an addition of the patients of previous years (4).

In the present study, the mean duration of staying in NICU was 2.87±3.37 (1-15) days. This rate is gratifying in terms of indicating that waste of time that could be the patient's disadvantage has been prevented as much as possible. All of the patients were transferred by 112 airplane ambulance to the center where the intervention would be performed. In the recent years, significant steps have been taken for the improvement of surgical procedures for congenital heart diseases in Turkey. 112 air ambulance system has substantially adapted itself and become able to provide rapid patient transfer by airplane and helicopter ambulances from each province (4).

In Turkey, the frequency of CHDRI is estimated to be quite high in the Southeast Anatolia region. The majority of patients born in this region and diagnosed with CHDRI are referred to the Western provinces for treatment. Having transferred 23 patients by air ambulance in one year from our unit alone caused substantial economic loss and waste of time that could be the patient's disadvantage.

Kervan et al. (5) reported that 46 provinces had cardiac surgery and angiography services, that there were a total of 207 centers that had this service, that number of patients per center were 350.537, and that the number of centers that had cardiac surgery service for CHD was 22. In the present study, it was emphasized that the number of centers that had cardiovascular surgery and angiography services was more than enough but these clinics were not distributed homogenously according to the geographic status of the country (5). High annual rate of referral for intervention from our hospital, which is a reference center for the region, appeared to corroborate Kervan et al. (5). Thus, a national plan and strategy is needed to give cardiovascular surgery service more effectively and for the population to get this service easily from the closest center.

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