Breast arterial calcifications and carotid intima-media thickness and hemodynamics: Is there any association?

To the Editor,

We have read the article "Breast arterial calcifications and carotid intima-media thickness and hemodynamics: Is there any association?" written by Büyükkaya et al. (1), published in the June 2014 issue of The Anatolian Journal of Cardiology, with great interest.

They aimed to investigate the relation between breast arterial calcification (BAC) detected by mammography and two well-known markers of cardiovascular diseases: carotid artery intima-media thickness (C-IMT) and hemodynamic parameters, like carotid peak-systolic velocity (PSV), end-diastolic velocity (EDV), and resistive index (RI). Postmenopausal female patients ranging in age from 40 to 86 were included in their study. They found a statistically significant difference between BAC groups [BAC(+), BAC(-)] in mean C-IMT after adjustments

for age (0.81 ± 0.2 mm vs. 0.69 ± 0.2 mm; $p < 0.001$). No significant differences were observed between BAC (+) and BAC (-) groups in terms of PSV, EDV, and RI.

Hormone replacement therapy (HRT) is commonly used in menopausal women for several reasons, and it has a number of useful effects. A high plasma level of estrogen protects women against arteriosclerosis in the premenopausal period. Numerous biological effects of estrogens are consistent with atheroprotection. Estrogens decrease total and LDL cholesterol and lipoprotein A and increase HDL cholesterol. Moreover, they inhibit lipoprotein oxidation and arterial smooth muscle cell proliferation and have favorable effects of soluble markers of vascular inflammation, vascular stiffness, and endothelium-dependent vasodilatation. In association with the true mechanism of the protective effect of HRT on atherosclerosis, epidemiological studies have shown that HRT use was associated with a lower risk of coronary heart disease among postmenopausal women (2). A recent study has shown that HRT is associated with a lower level of intima-media thickness in the common carotid arteries and a lower prevalence of carotid atherosclerotic plaques (3). Cox et al. (4) observed that the BAC frequency was significantly decreased among HRT-using women more than in the non-HRT group. The frequency of BAC was significantly reduced with HRT usage for all age groups ($p < 0.01$).

The studies above indicated that using HRT in the postmenopausal period affects both C-IMT and BAC. Büyükkaya et al. (1), in this report, compared the postmenopausal period between the two groups, but they did not mention whether they used HRT or not and also did not state the distribution of HRT usage between the two groups. We think that using HRT may have a role in the etiopathogenesis of BAC and C-IMT in postmenopausal women. We wonder about the authors' thoughts on this subject.

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