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Letter to the Editor

Kidney Involvement in Diabetes is not be the only Risk Factor for Subclinical Atherosclerosis

[1] Sounira Mehri, [2] Josef Finsterer

[1] Laboratory of "Nutrition - Functional Food & Health", Faculty of Medicine, University of Monastir, Tunisia
[2] Department of Neurology, Neurology & Neurophysiology Center, Vienna, Austria

Corresponding Author: **Josef Finsterer**

Letter to the Editor

We reviewed the article by Arora *et al*. on a cross-sectional observational study of the relationship between carotid intima-media thickness (CIMT) and markers of mineral metabolism such as serum phosphate, intact parathyroid hormone (iPTH), fibroblast growth factor (FGF)-23, and 24-hour urinary phosphate in 110 patients with diabetes and chronic kidney disease (CKD) [1]. CIMT correlated positively with serum phosphate, FGF-23, iPTH, and serum creatinine and negatively with the nephron index and urinary phosphate excretion, with a serum phosphate level >6 mg/dl predicting a CIMT > 0.9 mm [1]. The study is interesting, but some points need clarification.

The first point is that arterial hypertension was not included in the analysis [1]. CKD is often associated with arterial hypertension [2]. Since arterial hypertension is a known risk factor for atherosclerosis [3], we should know how many of the 110 patients included suffered from arterial hypertension and whether the arterial hypertension was well or poorly controlled.

The second point is that hyperlipidemia was not included in the analysis [1]. Since elevated serum cholesterol, triglycerides, low-density lipoproteins (LDL), and high lipoprotein-a are known risk factors for atherosclerosis [4], it is crucial to include these parameters in the analysis. Since dyslipidemia also depends heavily on the type, composition, and amount of nutrition, we should also be informed about the diet of the patients included in the analysis.

The third point is that several other factors associated with atherosclerosis were not taken into account but need to be considered and included in the analysis. Atherosclerosis increases with age [5]. Since the age of the patients included in the study was up to 78 years, it is very likely that atherosclerosis was not only due to CKD or diabetes, but also to advanced age. Other risk factors for atherosclerosis that were not taken into account include alcoholism, smoking, obesity, and a sedentary lifestyle [6].

Overall, before concluding that mineral metabolism markers, particularly serum phosphate and FGF-23, are associated with subclinical atherosclerosis in diabetics with CKD, confounding factors such as age, gender, arterial hypertension, smoking, and hyperlipidemia, which may contribute to the development of atherosclerosis, must be included in the study and a multivariate analysis must be performed. Before attributing subclinical atherosclerosis in diabetics exclusively to CKD, confounding variables that influence atherosclerosis must be ruled out as causes.

Declarations
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