Letter by Tsuda Regarding Article, “Serum Alkaline Phosphatase and Phosphate in Cerebral Atherosclerosis and Functional Outcomes After Cerebral Infarction”

To the Editor:

We read with great interest the article by Kim et al1 dealing with the relationship between serum levels of alkaline phosphatase (ALP)/phosphate and both cerebral atherosclerosis and functional outcomes in patients with acute cerebral infarction. The results of their study demonstrated that ALP levels were not associated with cerebral atherosclerosis but were an independent prognostic factor for long-term functional outcomes after acute cerebral infarction. However, it was shown that phosphate was associated with neither cerebral atherosclerosis nor functional outcomes. The authors proposed that although a relationship between ALP/phosphate levels and cerebral atherosclerosis was not observed, patients with elevated ALP levels had poor outcomes after acute cerebral infarction.

Evidence indicates that there were significant associations between low bone mineral density (BMD) and stroke. Jørgensen et al2 proposed that low BMD might predict first stroke in women. In a study presented previously, we showed that BMD was correlated inversely with urinary calcium excretion and systolic blood pressure in women.3 It can be speculated that in subjects with hypertension and lowered BMD, the disturbances in the calcium metabolism might be more pronounced. Recently, Carrelli et al4 demonstrated that lower serum 25-hydroxyvitamin D levels were associated with thicker plaque and higher intima-media thickness of the carotid artery, suggesting that vitamin D deficiency might predict the development of cerebral atherosclerosis and stroke. Pilz et al5 also reported that low serum levels of 25-hydroxyvitamin D and 1, 25-hydroxyvitamin D were independent determinants of fatal stroke and proposed that vitamin D supplementation might be a promising approach in the prevention of stroke.6 Because both ALP and phosphate might strongly be related to the calcium and bone metabolism, we would like to know whether levels of ALP/phosphate might be correlated with the changes in BMD and serum vitamin D levels in the populations in the study of Dr Kim et al.1 It would be important to assess more precisely the relationships among levels of ALP/phosphate, BMD losses and vitamin D deficiency, and their predictive values for both cerebral atherosclerosis and stroke prognosis.

Disclosures

None.

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