Response:

We read with interest the letter by Kisters et al1 concerning the potential involvement of magnesium in arterial stiffness. The authors have gathered indirect evidence that magnesium deficiency could increase arterial stiffness. Indeed, they observed low plasma magnesium values in patients with high brachial pulse pressure (PP)2 and abnormal elastic material in the aortic wall of magnesium-deficient spontaneously hypertensive rats of the Munster strain.3 The increase in PP may be due either to a higher arterial stiffness or to earlier wave reflections caused by changes in vasomotor tone of resistive arteries, modifying the reflectance point. Indeed, Adrian et al4 showed an acute vasodilatation of resistive mesenteric arteries in rats in response to an increase in magnesium concentrations together with a reduction in the stiffness of wall material. However, mesenteric arteries are resistive arteries and play only a minor role in systemic stiffness, in contrast to conductance elastic arteries, like the carotid arteries. The same group5 showed that magnesium deficiency did not modify the arterial distensibility of the rat carotid artery, despite increased intima-media thickness. Thus, a direct response to the issue of whether magnesium deficiency is associated with an increased arterial stiffness would be afforded by studying the elastic properties of the carotid artery in the magnesium-deficient spontaneously hypertensive rats of the Munster strain and the demonstration of asignificant correlation between aortic pulse wave velocity and plasma magnesium values in humans, independently of confounding factors.

Stéphane Laurent
Department of Pharmacology and Inserm
Hôpital Européen Georges Pompidou
Paris, France

Response
Stéphane Laurent

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