Focus on risk factors for hypertension and vascular disease. The articles published in the current issue of the Journal of Hypertension focus on risk factors for the development of hypertension and on the relationship of hypertension with cardiovascular disease.

Two articles illustrate the role of early-life exposure to risk factors for development of hypertension and vascular disease in adulthood. Yu et al. (pp. 63–68) report data from the Dongfeng–Tongji cohort of participants born or having spent their childhood during the Chinese famine of 1959–1961, the largest in recent human history, showing that exposure to famine in early life increased the risk of hypertension prevalence in adulthood. In an accompanying editorial, Banegas (pp. 29–32) carefully reviews all studies reporting the late health consequences of the Chinese famine and concludes that, despite inconsistencies among studies, practically all studies show that early-life environment is critical for the role of hypertension in adult life. This suggests that, to control the major diseases of adult life, it may be necessary to improve not only the nutrition and environment of adults but also the nutrition and environment of pregnant mothers and small babies. Another study from China, however, reminds us that not only starvation but also overweight in childhood influences blood pressure (BP) and vascular damage in adulthood: investigating the Beijing Blood Pressure Cohort, Yan et al. (pp. 47–54) found that BMI and SBP in childhood predicted carotid intima–media thickness in adulthood, and childhood BP predicted adulthood pulse wave velocity. Another article from Brazil (Silva et al., pp. 39–46) shows that the obnoxious effects of excessive BMI and waist circumference are maintained during adulthood: in a longitudinal study in south Brazil, being overweight, maintaining an elevated waist circumference or having an annual rise of these measurements above expected values increased the incidence of high BP.

Another major risk factor for hypertension, excessive salt consumption, is the topic of a systematic review and meta-analysis of studies on dietary salt intake in Indian adults: Johnson et al. (pp. 3–9) have calculated an overall mean salt intake of almost 11 g/day. Although the available data leave some uncertainty, there is little doubt that population salt consumption far exceeds the recommended maximum of 5 g/person/day.

The impacts of hypertension and diabetes on mortality have been investigated by Oh et al. (pp. 55–62) in the community-dwelling older adults of the Rancho Bernardo study in California: they report the novel finding that hypertension is more strongly associated with all-cause and cardiovascular mortality than diabetes. However, having both risk factors confers some increase in the hazard particularly of cardiovascular death.

BP variability has recently emerged as a relevant risk factor for cardiovascular diseases. In the current issue, Wang et al. (pp. 10–17) publish a meta-analysis of 23 publications reporting a significant, albeit moderate, association of visit-to-visit SBP variability with all-cause mortality, cardiovascular mortality, cardiovascular disease, coronary disease and stroke. In another article, McDonald et al. (pp. 140–147) have explored the role of 24-h ambulatory BP variability on cognitive function changes over a 5-year follow-up in community-dwelling people aged over 65 years, finding increased daytime BP variability to be associated with poorer performance in various cognitive functional indices. A third article focused on BP measurements has assessed the accuracy of the SphygmoCor XCEL device (Atcor Medical, Sydney, Australia) in measuring central BP (Shoji et al., pp. 69–75).

A considerable number of articles are devoted to pathological and clinical aspects of hypertension-related vascular disease. Suvorava et al. (pp. 76–88), working on mice, find that oxidative stress generated by endothelial-specific expression of genetically destabilized C101A-endothelial nitric oxide synthase (eNOS) selectively prevents the BP-reducing activity of vascular eNOS, while having no effect on aortic endothelium-dependent relaxation. In a cohort of hypertensive women, treated with hydrochlorothiazide, and randomized either to magnesium supplementation or placebo for 6 months, Cunha et al. (pp. 89–97) found that magnesium supplementation was associated with better BP control, improved endothelial function and amelioration of subclinical atherosclerosis. In an elegant technical study, Spronck et al. (pp. 98–104) show that, although the arterial stiffness index 8 and the cardio-ankle vascular index (CAVI) are often considered to be pressure-independent indices of arterial stiffness, they are inherently BP-dependent, instead. In an accompanying editorial commentary, Segers (pp. 33–35) remarks that this dependency had gone unnoticed until now, despite its obviousness. The good news, according to Segers, is that Spronck et al. propose a very simple way to correct index 8 and CAVI for their pressure dependency. By no means, in Segers’ opinion, the study by Spronck et al. is a reason to
The BP effects of metformin in nondiabetic patients. They underline that, although additional and appropriately designed clinical trials are required before the antihypertensive effect of metformin in individuals without diabetes is clearly established.

Chuang et al. (pp. 170–177), analyzing the National Health Insurance Research Database in Taiwan, report that spironolactone is associated with a significant lower risk of prostate cancer in male patients and of bladder cancer in women. In his editorial, Teo (pp. 36–38) comments that the androgen receptor blocking properties of spironolactone may be involved in cancer suppression, as suggested by the demonstration of antiandrogenic therapy benefits in the treatment of prostate cancers. However, in Teo’s opinion, whether or not spironolactone can actually reduce urinary tract cancers needs further confirmation, preferably by randomized controlled trials.

Bokrantz et al. (pp. 188–197) have analyzed data of 57,822 hypertensive individuals in the Swedish Primary Care Cardiovascular Database and confirmed that thiazide therapy is associated with a reduced risk of osteoporotic fractures. The effect was more pronounced in men and increased with longer treatment, but treatment discontinuation increased the risk of fractures.

Finally, Kulchaitanaroaj et al. (pp. 178–187) have made an estimation of long-term costs and outcomes attributable to a physician–pharmacist collaborative intervention for treating hypertension in community-based medical offices in the Midwest United States of America (compared with physician management alone) and conclude that team-based care appears to be a cost-effective strategy for treating hypertension, particularly in high-risk patients.

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Conflicts of interest

There are no conflicts of interest.