

EDITORIAL

“ Real-life research has also established a relationship between adherence to antihypertensive treatment and the risk of fatal and nonfatal cardiovascular events at all ages, including patients older than 85 and 90 years”

Increase and change in focus of hypertension research in the last decades

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Denos and Menard¹ have recently shown that interest in hypertension has grown remarkably over the last 20 years, contrary to the perception that, following the popularity in the second half of the last century, it had declined. Taking 1997 as a reference, the Web of Science articles on hypertension have increased by almost 60% in 2016, a figure similar to the increase shown by the articles on cardiovascular disease as a whole. The increase has involved most individual countries and all continents (with the steepest slope for Asia and China), with an overall number of approximately 101 000 hypertension articles published in the 1997-2016 period. There has also been a 50% greater representation of hypertension papers among cardiovascular papers with a top 10% citation rate, with a total number of citations greater than two and a half million. This shows that hypertension research is alive and healthy both quantitatively and qualitatively.

The overall increase in research on hypertension over the last two decades has been accompanied by a progressive shift in research approaches and topics. In the paper by Denos and Menard,¹ evidence was obtained that a major element of novelty has been a marked increase in the rate of collaborative research between investigators from different countries, a phenomenon maximally evident within the European Community. It is also a common notion (and confirmed by Denos and Menard) that some topics have progressively lost ground, whereas other topics (environmental factors, comorbidities, genetics, oncology, pediatrics, clinical neurology, resistant hypertension) have been addressed at progressively higher rates. I would additionally mention that, in the last decade, there has also been a major increase in so-called “real-life” research, due to the evidence that data from clinical trials or collected in the hospital or other controlled environments are different from medical practice, hardly reflecting what happens in daily medicine. A vivid example is the dramatic difference between the control of an elevated blood pressure achievable in trials (perhaps 90% to 95% of the patients) and the low percentage achieving blood pressure control in medical practice, which remains disappointingly low worldwide.² This counteracts to a substantial degree, the remarkable progress achieved by research in this medical area and is responsible for the ranking of hypertension as the first cause of death worldwide.³

Interest in “real-life” research on hypertension is justified by the fact that the two factors that have been found to be majorly responsible for the poor rate of blood pressure control in the hypertensive population, ie, low adherence to treatment prescriptions and therapeutic inertia, cannot be properly addressed when neither doctors nor patients are aware of the need to be involved, because awareness alters their be-

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havior and provides much more optimistic data than those reflecting reality. In clinical trials, for example, it is customary to find that, on average, adherence covers 80% to 85% of the treatment time,⁴ whereas, in real life, adherence is much lower and discontinuation of treatment is common.⁵ “Real-life” research has also established a relationship between adherence to antihypertensive treatment and the risk of fatal and nonfatal cardiovascular events at all ages, including patients older than 85 and 90 years.⁶

This research has also documented the adverse impact of therapeutic inertia on the effectiveness of real-life antihypertensive treatment by showing that more than 60% of the patients starting treatment with a single antihypertensive drug never move in the following years to drug combinations (data from the Lombardy region⁷) as recommended by the guidelines for the majority of hypertensive individuals.⁸

“Real-life” studies are finally providing detailed information on the determinants of low adherence and therapeutic inertia, which is the necessary preliminary step in any successful effort to make adherence higher and inertia lower, with a substantial increase in the rate of hypertension control. Evidence is available that, although adherence is affected by many environmental, demographic, psychological, and social factors, treatment characteristics, such as a fast blood pressure-lowering effect, a good tolerability, and a simple drug treatment schedule, play a major role, which has led the recent European

guidelines to recommend treatment initiation with two drugs (making blood pressure control faster) in a single tablet in most patients.⁸ All this is taken up by the distinguished colleagues who contributed to this supplement. Professors Narkiewicz and Kolwelter & Schmieder highlight the multiple advantages of combination treatment (dual or even triple combinations), given that hypertension has a multifactorial generation and blood pressure is a multiregulated variable. Professor Taddei emphasizes that, in some drug combinations, combination components may not have just an additive, but also a synergistic blood pressure-lowering effect, ie, the resulting blood pressure reduction may be greater than the sum of their effects when given as monotherapy. Professors Borghi and Levy summarize the remarkable scientific story of drugs, such as indapamide and perindopril, from their birth to the present position as leaders in the diuretic and angiotensin-converting enzyme inhibitor classes, respectively. Professor Mourad recalls the great contribution of hypertension studies to cardiovascular preventive medicine as a whole, not only because of the demonstration that blood pressure reductions are protective, but also because of their role as a model for the following studies on dyslipidemias and diabetes. Finally, Professor Poulter opens a window to the future by discussing further simplified treatment options, ie, the one including, in a single tablet, blood pressure- and lipid-lowering agents.⁹ This is universally recognized as a rational development because dyslipidemias are, by far, the most common comorbidity in individuals with a blood pressure elevation. ■

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