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# The importance of Michel Safar's work for the European Society of Hypertension

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It is a privilege and honour for me, as current President of the European Society of Hypertension, to write these few lines, in recognition of the outstanding contribution of Pr Michel Safar, to the field of large arteries in hypertension. The pioneering studies of Michel Safar started in the 70s when he was interested in the pathophysiology of arterial aging, namely the stiffening of the aorta, and its link with the augmentation of systolic blood pressure (SBP) and pulse pressure (PP) in the elderly. Until 1988, all guidelines recommended the diagnostic of hypertension mainly from diastolic blood pressure (DBP). At that time, SBP was taken into account only when DBP was lower than 90 mmHg. Ten years later, hypertension was diagnosed either from an elevated DBP or SBP. This term "or", which appears so obvious nowadays, underlines the importance of epidemiological studies showing the predictive value of SBP for cardiovascular events. A major contribution of Michel Safar to the epidemiology of hypertension was the demonstration in 1989 that brachial PP had an independent predictive value for cardiovascular events. This finding was confirmed by numerous studies from his group and others, showing in parallel that the predictive value of SBP was higher than DBP in elderly subjects.

The ESH, which previously endorsed the WHO/ISH (World Health Organisation/International Society of Hypertension) Guidelines, responded to the suggestion of the WHO/ISH that regional experts draw up recommendations specifically directed toward the management of patients in their own region. The first European guidelines for the management of hypertension were released in 2003. They clearly stated that hypertension should be diagnosed either on brachial DBP or SBP, and they insisted upon the predictive value of brachial PP.

Earlier, in the 80s and 90s, Michel Safar convinced numerous young researchers to join his group: particularly Roland Asmar,

Athanase Benetos, Jacques Blacher, Pierre Boutouyrie, Alain Guerin, Xavier Girerd, Patrick Lacolley, Stéphane Laurent, Jaimé Levenson, Bernard Levy, Gérard London, Jean-Jacques Mourad, Bruno Pannier, and Alain Simon, who participated to the so-called "Paris school". Several are now heads of INSERM units. A large amount of evidence was accumulated concerning various topics related to large arteries, including the pathogenesis of arterial stiffening, the mechanisms of the augmentation of central PP, the deleterious effects of central PP on target organs, the epidemiology of arterial stiffness and central PP, and the effects of drugs on arterial stiffness and central blood pressure.

Thus, it was not surprising that Michel Safar was honoured by the ESH. In 1999, he received the "Alberto Zanchetti Life Achievement Award", one of the highest distinctions, acknowledging a scientist with a life-long high quality scientific research in the field of hypertension.

In 2007, the ESH/ESC Guidelines for the management of hypertension listed aortic stiffness (carotid-femoral pulse wave velocity) as one of the 3 arterial parameters to be measured, in order to assess subclinical organ damage and evaluate the global cardiovascular risk. This important addition to the guidelines has been made possible only because a large number of studies consistently demonstrated the independent predictive value of aortic stiffness for cardiovascular events.

Research in the field of arterial stiffness and central blood pressure is currently evolving exponentially. Scientific evidences are being accumulated to show the importance of measuring arterial stiffness and central blood pressure in routine clinical practice and therapeutic trials. Obviously, the work of Michel Safar has improved our understanding of hypertension and changed our clinical practice.