

patients. However, it cannot be ruled out that the endothelial cells may have a different responsiveness in patients with a genetic basis for hypertension and are more susceptible to damage. After all, PDE-3 is also strongly expressed in endothelial cells.

One property of the endothelium which has been a research interest of mine in the last few years may be of central importance in the pathogenesis of hypertension. It is only recently that the early reports of inflammation and its relationship with hypertension have been confirmed and extended in a more rigorous manner. We now have a multitude of studies demonstrating that the pathogenesis of hypertension is intricately linked to specific inflammatory mechanisms. This work which was pioneered by Harrison and others suggests that hypertension is a specific immunological response and that T-lymphocytes and monocytes are directly linked to an increase in blood pressure. In this inflammatory response the endothelium also plays a major role. Leucocytes within the blood stream have to enter the vascular wall through the endothelial cell layer. The secretion of chemokines and the expression of adhesion molecules are important steps in this set of events. How the inflammatory cells induce an increase in high blood pressure and whether the endothelial cells are involved in either the generation of epitopes which induce the immunological response or whether they are mostly responsible for the immigration of white blood cells into the vessel wall remains to be solved. However, I believe that the interaction between the inflammatory mechanisms and the vessel wall are of wider importance in the pathogenesis of hypertension.

In recent years the neuronal circuits especially the sympathetic system have become more important in the pathogenesis of hypertension. As always, the introduction of a novel device to interfere with a specific pathogenetic mechanism has led to a lot of activity. Without addressing first the issues of the underlined pathophysiology we (especially in Germany) embarked enthusiastically on interventional procedures in patients with severe hypertension. I strongly believe that the sympathetic nervous system plays an important role in hypertension. The intimate relationship between neuronal cells and the vasculature, the tubulus system and other organs makes it more likely than not that the nerve fibres strongly influence the behaviour of sodium reabsorption and contractility. This relationship has been shown in elegant pathophysiological studies by DiBona and others. However, because this relationship is so delicate and balanced, it is important to find out which mechanisms are responsible and to define patients most likely to have hypertension on the basis of increased sympathetic tone and who therefore may benefit from medical therapy.

So based on my view of hypertension, what role does the kidney play? As I am a nephrologist I believe that this is most likely a central one. Classically, it was the increase in sodium absorption on the one hand and the release of ACE-active hormones on the other which kept the kidney in the centre of blood pressure regulation and hypertension. Genetic studies in families with monogenetic hypertension have strongly shown that a variety of elements are involved in tubular sodium reabsorption and the pathogenesis of hypertension. We have been concentrating on specific defects in transport systems and signalling molecules. However, in the last couple of years we have found that these mechanisms may be even more complicated.

In summary, my view on hypertension has been strongly influenced by my scientific life with hypertension. I was once fully convinced that vascular resistance is the culprit in the disease and my centre of the hypertensive universe. However, over the years, endothelium, nerve fibres and renal cells have appeared and make a more complex picture. It is like in a museum: the older I get the more I am interested in the complexity of baroque paintings and consider my favourite renaissance paintings to be one-dimensional. However, complexity is no excuse for not finding out how it works. And that is still the real challenge: which of these mechanisms we have so successfully described and characterized over the last 30 years is active in our hypertensive patient?

- Hermann Haller

Council's Corner: Hypertension Issues - a personal view



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It was my great pleasure to be elected as an ISH Council Member in 2012. One of my main aims of joining Council was to act as a link between the ISH 2016 Seoul Biennial Scientific Meeting Local Organising Committee and the ISH leadership and maximise the opportunities for scientific exchange at this event. Since my election, I have been working with my local colleagues to determine the main theme and topics to be discussed at the meeting (Hypertension Seoul 2016).

Hypertension Seoul 2016
The 26th Scientific Meeting of the
International Society of **Hypertension**
September 24(Sat) - 29(Thu), 2016
Coex, Seoul, Korea

As you may be aware, the main theme of Hypertension Seoul 2016 has been confirmed as **"working together for better BP control and CV reduction."** I believe that hypertension meetings should create numerous opportunities for information exchange on recent developments, as well as being a place for participants to think about the way in which high blood pressure can be better managed. In practice, high blood pressure is not adequately managed. This is more often from a lack of interest from the patient or doctor than from a lack of information provision, although cases differ for patients based in countries with varying economies. The cooperation of health professionals is indispensable in order to effectively control and manage high blood pressure. The ISH 2016 Seoul meeting will be an ideal occasion for clinicians and scientists from all over the world to come together for the good management of persons with high blood pressure.

The landscape of hypertension burden in the world is changing. There is a high burden of high blood pressure in Asia in areas including China, India and Southeast Asia. The epidemiology of this region is totally different from Europe, even though data from different areas within Asia differs. Subsequently, the first topic of the meeting will be the difference in cardiovascular (CV) risk factors and outcomes in Eastern and Western areas. This will be a chance to discuss the reasons for the lower incidence of CV outcomes in the eastern world and give good insights into reduced CV outcomes in the western world. In addition, it will allow eastern countries to share their experience of high blood pressure control from a western perspective.

The global population is ageing.

Many developed countries are facing previously unexperienced problems of hypertension in the elderly. Hence, this will be the second topic for the meeting. Management of high blood pressure in the future will be targeted at the prevention of small vessel disease in central nervous system (CNS) leading to geriatric syndrome such as cognitive impairment, depression and Parkinson Syndrome with gait abnormality. Better prevention of small vessel disease in CNS will lead to reduction of disability in the elderly, reducing the health economic burden of the world. In addition, target blood pressure, use of medication in frail elderly patients should be included for discussion. There will be many related topics to be discussed in the elderly such as prevention of diastolic heart failure or chronic kidney diseases.

Information technology may change hypertension management in the future.

Having a longer life-expectancy, every individual should have the ability to manage his or her medical conditions including high blood pressure. With the introduction of simple appliances at home or during activity, blood pressure, glucose or the amount of exercise taken can be measured and data can be used to manage a person's health status in clinical practice. Data can be stored in mobile phones and transferred to clinics for further reference. This will be a new mode of managing chronic problems in the future. This subject will be covered as the 3rd topic for the meeting and up to date applications will be presented.

Hypertension still remains the leading cause of CV diseases in the world. We are equipped with good therapeutic treatments but due to various reasons, control of blood pressure levels remains inadequate in almost all parts of the world. Hypertension specialists, in collaboration with other health professionals including general practitioners, must work together to reduce global blood pressure levels. I hope the next meeting in Seoul to be a good chance to achieve this goal.

- Cheol-Ho Kim



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Plenary Session: Perspective of hypertension in the future



Yutaka Imai, Japan
Remote BP monitoring
in hypertension care



Friedrich Luft, Germany
Tailored drug therapy for
arterial hypertension



Steven Steinhubl, USA
Hypertension management
in the era of digital information
and communication technologies