The Franz Volhard of the International Society of Hypertension

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There can be few greater honours than to have the peak international society of professional peers dedicate their premier award in one’s name. Franz Volhard was posthumously recognized in this way with the first Franz Volhard Award of the International Society of Hypertension in 1972 to commemorate the centenary of his birth.

Through his work on kidney pathology and renal hypertension (among other things) Volhard was a pioneering leader in the early 20th century.

The criteria for the Award speak to achievements of substance and duration:

“The award shall be made biennially to a person or persons who, in the opinion of the Awards Committee of the ISH, shall have initiated in the field of hypertension or in a related discipline, a concept which remains of current interest.”

The stature of the Volhard Award is to no small extent defined by the calibre of the recipients and the list of Awardees speaks volumes.

• 1974 Sir George Pickering (UK)
• 1976 F Byrom (UK)
• 1978 Björn Folkow (Sweden)
• 1980 Edgar Haber (USA)
• 1982 Paul Korner (Australia)
• 1984 Franz Gross (Germany)
• 1986 Alberto Zanchetti (Italy)
• 1988 Louis Tobian (USA)
• 1990 John Shepherd (USA)
• 1992 Colin Johnston (Australia)
• 1994 Eric Muirhead (USA)
• 1996 Hugh de Wardener (UK)
• 1998 John P Chalmers (Australia)
• 2000 Lewis Landsberg (USA)
• 2002 Hans Brunner (Switzerland)
• 2004 Harry Gavras (USA)
• 2006 Giuseppe Mancia (Italy)
• 2008 Thomas Pickering (USA)
• 2010 Graham MacGregor (UK)
• 2012 John Hall (USA)
• 2014 Toshio Fujita (Japan)

Sir George Pickering, the Regius Professor of Medicine at Oxford had known Volhard personally and was the first to receive the Volhard Award. Pickering accumulated and interpreted clinical and experimental data with clarity and simplicity. His ability to distil information (‘To be truly comprehensive nowadays is to be tedious and dull’) around the central theme of the unimodal nature of blood pressure distribution was controversial.
and stimulating. His idea expressed in 1968 ‘No-one nowadays defends a dividing line between normotension and hypertension’ rings as true as ever with implications for everything from clinical treatment to genomic discovery. Pickering’s work epitomized just the sort of seminal contribution that the Volhard Award seeks to recognize.

The possibility of genetic predisposition to the Volhard Award is raised by the success of Thomas Pickering 34 years after his father. Also a lateral thinker, Thomas brought early insights to the variability of blood pressure and the importance of means of measurement. His Award recognized his characterization of several subtypes of patients with hypertension using clinic, home, and 24-hour blood pressure monitoring. What Sir George might have thought of the systemization of a qualitative definition he fought to dismantle we shall never know!

However, Pickering Senior did recognize the qualitative nature of the complications of high blood pressure in the form of malignant hypertension that Volhard had described years earlier. It was for major contributions to the understanding of malignant hypertension and arteriolar necrosis that the 2nd Volhard Award was presented to FB Byrom. Byrom spent much of his professional life between London and Sydney and it was in Sydney at the ISH Meeting in 1976 that Byrom received his Award. Like Volhard, Byrom was an accomplished violinist and performed solo in the Music Room of the Sydney Opera House on the occasion of his Award.

Byrom had used renal models of hypertension to study the vasculature of the brain. Not surprisingly, blood vessels, the brain and the kidneys are recurring research elements of the subsequent winners of the Volhard Award.

Indeed, it was for his development of the concept of the ‘vascular amplifier’ that Bjorn Folkow received the 3rd Volhard Award in 1978. A prolific thinker, Folkow highlighted the functional consequences for total peripheral resistance resulting from the structural changes of vascular hypertrophy with implications for both the causes and consequences of hypertension. The vessels were also the focus for John Shepherd in his studies of role of the endothelium and endothelium-derived vasoactive factors in vascular function and hypertension.

Major contributions to the involvement of the kidney in blood pressure came from outstanding researchers such as Louis Tobian (relationship between sodium and renin production by the kidney and roles of calcium and potassium in the genesis of hypertension and avoiding vascular complications); Eric Muirhead (discovery of the renomedullary system of blood pressure control and its hormones); Hugh de Wardener (leading investigations into natriuretic factors); John Hall (renal physiological mechanisms of hypertension and their interaction with obesity and insulin resistance) and most recently Toshiro Fujita (pathophysiology of salt-sensitive hypertension).

No less a group of Volhard Awardees have made their research impacts in neuroscience and includes stars such as Paul Korner (central nervous control of the circulation, particularly baroreflex and chemo reflex function and how this integrated with structural change in the vessels); Alberto Zanchetti (sympathetic nervous system in the pathophysiology of hypertension and its interactions with the kidneys); John Chalmers (the role of the brain in the development of hypertension) and Giuseppe Mancia (cardiac and vascular reflexes in blood pressure and their relation to antihypertensive treatment).

Blood pressure control systems have been the substrate for discoveries that have revealed both the basic elements of such systems, their complex interactions and their place in treatment. Here landmark work has come from Franz Gross (aldosterone and adrenocortical involvement in hypertension); Edgar Haber (development of antibodies for angiotensin and renin); Colin Johnston (clinical and experimental research addressing the renal and hormonal regulation of blood pressure); Hans Brunner (role of renin and the renin-angiotensin system in blood pressure regulation), Harry Gavras (use of ACE inhibitors in the treatment of hypertension and congestive heart failure) and Graham MacGregor (salt intake, the kidney and blood pressure control mechanisms and treatment). The fascinating links between various control systems in explaining the relationship between weight and blood pressure saw Lewis Landsberg receive the first Volhard Award for the 21st Century.

Impressive as the catalogue of Volhard Awardees might be, one could imagine others could merit such a distinct honour. Many are now no longer with us, unfortunately. It is incumbent on those of us in the field to ensure that we don’t let other deserving outstanding colleagues slip through the nomination process.

In thinking about this, remember that there is no stipulation that Awardees must be male or from any certain geographical region. It would be marvellous to see this particular mould broken sometime soon, especially given the commitment of the ISH to promoting women and representing all the regions of the world.

We hope that in 2074, when today’s New Investigators look back at the first 100 years of the ISH Volhard Award, they will be filled with pride.

-S. Harrap