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In memoriam Hein Wellens rest in peace ... EP will not be the same without you

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GUEST EDITORS' PAGE



In Memoriam Hein Wellens

Rest in Peace . . .

EP Will Not Be the Same Without You



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HENRICK JOAN JOOST (HEIN) WELLENS (1935 TO 2020)

Cardiology in the 1960s had yet to embrace the importance of clinical cardiac electrophysiology (CCE). Supraventricular tachycardias (SVT) were usually lumped into a single undifferentiated group, most clinicians could not distinguish type I from type II second-degree AV block, and all ventricular tachycardias (VT) were considered as just an arrhythmia originating in the ventricles. Major training centers of basic or clinical electrophysiology numbered <7 to 8 worldwide, headed by people like Dirk Durrer in Amsterdam, Silvio Weidmann in Bern, Gordon Moe in Utica, New York, Brian Hoffman, Paul Crane field, and Anthony D'Amato in New York City, and Mauricio Rosenbaum in Buenos Aires. The American Heart Association and American College of Cardiology hosted the 2 major annual scientific sessions at that time, which attracted only a handful of electrophysiology enthusiasts.

Such was the clinical environment in which Henrick Joan Joost (Hein) Wellens began his training with Dirk Durrer in Amsterdam, a pursuit that would ultimately help revolutionize the CCE specialty and establish its importance by discovering mechanisms responsible for many cardiac arrhythmias, applying this knowledge to the care of patients, and, most importantly, teaching others to do the same.

One example of Hein Wellens' many important contributions involves the concept of reentry, a well-established laboratory phenomenon originating in the studies by Mayer (1) and Mines (2). Clinically, it was

only a hypothesis proposed as the mechanism responsible for clinical arrhythmias associated with the Wolff-Parkinson-White (WPW) syndrome. In 1967, Hein, working with Dirk Durrer, demonstrated the initiation and termination of tachycardias with premature atrial or ventricular stimulation in patients with WPW syndrome, concluding, "These results suggest that a circus movement involving the atria, the normal atrioventricular conduction system and the Kent bundle is present" (3). This observation led to the successful surgical interruption of the accessory pathway a year later (4) and eventually to radiofrequency catheter ablation of accessory pathways (5).

Hein performed a similar tour de force several years later (6) in patients with ventricular tachycardias (VT) by starting and stopping the VT with premature ventricular stimulation, concluding, "Our results favor reentry as the causal mechanism for the tachycardias in our patients." As with WPW, the observation was followed by the surgical correction of VT by Josephson et al. (7) and later by radiofrequency catheter ablation (8).

An important development stemming from similar research at this time was the burgeoning relationship between Hein and Mark Josephson that led to an enduring friendship which, like a marriage, lasted "until death do us part." They met at a meeting in Liege in 1978, found they shared the same interests, and in 1980 planned a joint teaching course on complex arrhythmias. That course was held the following year in Monaco and evolved over the next 35 years (9) into, arguably, the most outstanding arrhythmia course in the world. Mark and Hein shared their lives, their work, their families, and—to the benefit of countless learners—their teaching as they forged a best friend bond.

Among the many attributes that set Hein apart was his humility and humanity, his caring for others, no

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matter who they were. Countless young learners told the same story about how easily approachable and responsive Hein was, how caring. After Mark's death, Hein wrote how "Mark was a unique person having many different qualities and strengths, as a doctor, clinical scientist, teacher, mentor, writer, and as a family man" (9). The very same words can be used to describe Hein.

Hein is one of the very few true giants of our subspecialty who will always be remembered for his monumental contributions that altered how we think, how we teach, but more importantly, how we improve the lives of the millions of patients with cardiac arrhythmias.

Hein Wellens was a great friend to all of us and through the years was always there to provide advice or support, or to just listen. Hearing he was very ill, D.P.Z. emailed him to express dismay at the terrible news and to tell him how much their friendship meant to him for over 50 years. Hein promptly emailed back a note congratulating D.P.Z. about the successes of *his* career, how important *Doug's* friendship had been to him, and sent regards to *Doug's* wife—this from a man who knew he would die in the next few days! That response speaks volumes about Hein's character.

Hein became a significant mentor to J.N. and J.J.B. over the years. J.N. established an extremely close relationship with Hein when he invited J.N. to Maastricht as the first Hein J.J. Wellens Visiting

Professor. Hein became very fond of J.N., who visited Maastricht for 5 weekly trips and developed extensive collaborative relationships, particularly pertaining to molecular imaging of myocardial pathology, including apoptosis, interstitial fibrosis, and neuro-humoral perturbations in adverse remodeling. J.N. trained many of the Dutch fellows through their docentship until 2013.

J.J.B., since the age of 3 years, lived on the same street as Hein in a small village close to Amsterdam. In 1990, as a medical student, he was captivated by Hein's lecture on electrical current in the diagnosis and treatment of cardiac arrhythmias, when Hein received the Willem Einthoven Award at Leiden University Medical Center. J.J.B. was invited by J.N. to give the Hein Wellens Lecture at the University of California Irvine in 2010. Subsequently, Hein collaborated with J.J.B. on the thesis of Rutger van Bommel studying the electrocardiogram to detect right ventricular dilatation in patients with left-bundle-branch block.

The world has lost a great clinician, scientist, and educator. We have lost a close friend. Hein, you will always remain in our hearts. Rest in peace, dear friend.

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