

## GIANTS IN NEPHROLOGY

## Hugh de Wardener - the Man and the Scientist

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## Abstract

Hugh de Wardener died on 29<sup>th</sup> September 2013, ten days before his 98<sup>th</sup> birthday. He had a diverse upbringing and qualified in Medicine in 1939. He joined the army but was captured in 1942 and imprisoned in Singapore and Thailand until 1945. His clinical care of fellow prisoners was highly regarded. He preserved their clinical records and used them, post-war, to write two Lancet papers. One showed, for the first time, that Wernicke's encephalopathy could be caused by severe malnutrition and cured by small doses of vitamin B1. His later academic interests were based on the emphasis he placed on renal physiology. This applied to the topic most associated with his name-Natriuretic Hormone. Whilst de Wardener never isolated this hormone, his early experiments, demonstrating that a "third factor" other than GFR and aldosterone affected renal sodium transport,

were substantiated by others. Hugh had many research interests: pyelonephritis, renal histology, maintenance dialysis and metabolic/renal bone disease. In his later years he researched intensively into the role of sodium and salt in the aetiology of essential hypertension. Hugh was president of the International Society of Nephrology (1969-72) and the UK Renal Association (1975-78). He received many awards and recognitions from across the world, many of them after his (so-called) retirement. Throughout his career he never neglected the care of his patients. As Bob Schrier wrote in his obituary of de Wardener in *Kidney International* "he was a caring physician...whose dedication to his patients' welfare was exemplary".

**Key words:** de Wardener, natriuretic hormone, physician, prisoner-of-war

## Background

Hugh de Wardener, Figure 1, previously Professor of Medicine at Charing Cross Hospital Medical School, London, died on the 29<sup>th</sup> September 2013, just ten days before his 98<sup>th</sup> birthday I knew him for over 50 years as a student, junior doctor, consultant colleague and friend. He had a very varied life in relation to his background and his personal and professional life.

Hugh was born in Paris in 1915 whilst World War 1 was raging. War was to play a significant role in his future. His father was Baron Edouard de Wardener, a Frenchman with Austrian and American links. His mother was American - a doctor's daughter - with French links. The marriage ended when he was 1 year old. Thereafter he travelled with his mother, mainly in Europe. He attended schools in various places: Lausanne, Rome, Florence, Albuquerque and, in the UK,

in Sussex and then Malvern College. He spoke no English until age 8.

He was born Edouard Hermes Hippolyte! His mother, perhaps not surprisingly, got rid of the middle names. As a schoolboy Hugh was very keen on the "Bulldog Drummond" books, the hero of those stories being Hugh Drummond. Hugh decided to change his names to Hugh Edward when he was naturalised British in 1938.

He first studied with engineering in mind but, knowing that his mathematics was poor, he went into Medicine and studied at St Thomas's Hospital Medical School, qualifying in 1939. His first post was as House Physician at Scunthorpe Memorial Hospital in Lincolnshire. Soon after starting his consultant was killed in a road accident and Hugh was left in charge of adult medical and paediatric patients for the remainder of the post.

## Prisoner-of-War

de Wardener enlisted in the British Army and thence into the Royal Army Medical Corps (RAMC). He was posted to Singapore but the island soon fell to the Japanese army so that in February 1942 he became a prisoner-of-war (POW). After a year at a hospital in Singapore, dealing mainly with dysentery cases, he was moved to work on the Burma-Siam (now Thailand) railway, later made famous by the film "Bridge on the River Kwai". At various camps he dealt mostly with infections: dysentery, cholera, diphtheria and malaria; the sufferers had superimposed severe malnutrition. With a pathologist, who, amazingly, was allowed to carry out autopsies, he dis-



Figure 1.  
Hugh Edward de Wardener 1915-2013

covered that quite a lot of patients had developed Wernicke's encephalopathy. The changes in the brains of prisoners who died were typical of this condition. There was clearly no association with alcohol in these POWs, as was the accepted aetiology. de Wardener found that the Wernicke's in his patients was due to vitamin B1 deficiency. Treatment with "Marmite"-a beef extract-and, when available, parenteral vitamin B1, resulted in huge improvements in the patients' condition.

de Wardener kept detailed records of his cases and hid them in a large tin which was sealed and buried in the grave of a prisoner. Bearings of the grave were taken using trees as markers. When the war ended he was able to retrieve the tin, notes intact, and bring the records back to England.

Hugh's clinical care of fellow POW's was highly regarded. One prisoner who survived illness and captivity wrote a book after the war which he dedicated to de Wardener amongst others. He described him as "one of the most respected figures in Thailand" and wrote "His soft, level voice sounded as sympathetic as it did effective, and after half a minute I felt as if a great weight had been lifted off my chest...my neighbour whispered 'there's no need to worry any longer these days, Ginger's got it properly under control. No one has died for several days.' [1] Ginger was Hugh's nickname on account of his hair colour.

Hugh's personal views about his medical role were different: "I was lucky to be a POW and a doctor. We were lucky to do our job and not to have to do any of the horrible work, the hard labour. I had wonderful experiences seeing things I could write up". And "As a doctor you can't often say that you really save lives; you are *about* when they recover... you do the right thing... and they recover. Just occasionally, perhaps two or three times in your life, you actually make a difference" (personal communications).

Hugh "made a difference" to many people's lives while in captivity. He undoubtedly saved many lives but rarely talked of it and never in those terms.

But in captivity he also showed a talent of a different kind-acting. On Christmas night 1943 he starred in a show entitled "Babes in Thailand". It was written of him "An RAMC officer, Captain Hugh 'Ginger' de Wardener, was in the cast... His performance as the 'Fairy Queen' on that first night is the stuff of legend... He and others went on to produce many more shows and revues which helped keep morale and spirits high... For a brief moment in the middle of our dark jungle they brought us a shaft of light, a breath of freedom" [2] [3].

de Wardener's war-time medical work revealed his determination to use his experiences for the greater good. He returned to England in 1945 and, using the previously buried records, wrote two papers, published in the *Lancet* in 1946 and 1947. One was on cholera [4] and the other on Wernicke's encephalopathy or Cerebral Beriberi as it was entitled [5]. His work as a POW was recognised by the award of a Military MBE (Member of the Order of the British Empire).

## St Thomas's, Charing Cross, and after

After a period of illness-TB contracted in captivity-de Wardener returned to St Thomas's and was soon researching and publishing. The basis for his long and glittering career in Nephrology was his interest in and understanding of renal physiology. His interest in renal sodium transport started at St Thomas's and continued at Charing Cross where he had been appointed first Professor of Medicine (University of London) in 1960. His pursuit of a "third factor" affecting renal sodium transport - the Natriuretic Hormone (NH) - occupied much of his time and paper-writing. His first such paper was entitled "Renal function during emotional diuresis" [6]. I do not know what the emotion entailed, but the paper showed that the lady had a massive natriuresis when catheterised. The authors hypothesised that this was due to a factor other than changes in GFR or aldosterone, i.e. the "Third Factor". Subsequently he confirmed, in man and animals, that blood volume expansion caused natriuresis without changes in GFR or aldosterone.

de Wardener's hypothesis was initially ridiculed by some. He described how comments were made to him *en passant* at meetings such as "Where's the white powder, Hugh?" Initially the hormone was thought to be a protein, then a peptide. Other experiments suggested the hormone was released from brain tissue and later that it was a Na-K-ATPase inhibitor. Ultimately de Wardener was unable to identify the nature of NH but, as is now well known, the work of others has confirmed that not only does a "third factor" exist but that renal sodium transport is multifactorial in its control.

Hugh had many other research interests. These included renal infection, renal histology, maintenance haemodialysis (his phrase), renal and metabolic bone disease, and calcium, vitamin D, aluminium and magnesium metabolism. He retired from clinical work in 1981 but persisted with his interest in sodium, publishing many papers with Professor Graham MacGregor on the relationship between sodium and the aetiology of essential hypertension.

He published papers every year from 1946-1997-a half century of work-and continued to publish until 2012 at the age of 96.

He achieved much else. In 1958 he wrote the first textbook dedicated to renal function and diseases, typically and simply titled "The Kidney". He single-authored five editions of this book, the last being in 1985. Whilst at Charing Cross, with others, he developed a computer programme for the recording and tracking of clinical, haematological and biochemical data from dialysis patients. This system still forms the basis of many such programmes in use today in renal and other specialities.

Hugh never relinquished his clinical work. He remained an "on-take" general physician as well as an active clinical nephrologist until he retired from clinical work in 1981. He always turned up for his ward rounds and clinics. His patients loved and respected him. He was a personable and charismatic

man. Lady patients often had their hair done prior to his rounds! He always recognised the personal needs of patients and in 1972 was responsible, with others, for establishing an independent holiday dialysis facility on the south coast of England. The centre provided accommodation for three or four families and there was a resident nurse who took over dialysis treatment from the patients and/or carers. The centre is still in use today.

### Awards and Recognition

de Wardener's contributions to medicine, and nephrology in particular, have been recognised in many ways and in many countries. He was actively involved in the early days of the International Society of Nephrology (ISN) and helped in the planning of "Nephron" and "Kidney International". He worked with Professor Richet in this task and they published their proposals and agreements. He was ISN president 1969-1972 and president of the UK Renal Association 1975-1978. He was elected to various medical

societies in Great Britain, Europe and the United States. He was the recipient of many awards including the Hamburger Award in 1993 (jointly with Professor Richet), the Homer Smith Award 1972 and the Franz Volhard Award 1996. He was made CBE (Commander of the Order of the British Empire) in 1981.

In Hugh's obituary in *Kidney International* Bob Schrier—who had worked at Charing Cross with de Wardener in 1967-1968—wrote: "He was always a role model for me as a charismatic teacher, innovative researcher and caring physician. He was always inquisitive, asking why and how. His dedication to his patients' welfare was exemplary. He lived a remarkable and full life. He will be direly missed" [7].

Hugh died on de Wardener Ward at Hammsmith Hospital on 29<sup>th</sup> September 2013. Perhaps not surprisingly he left his body for medical research. He was a great man and a great scientist and certainly part of the History of Nephrology. To me he was a doctor who truly practised the art and science of Medicine.

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### References

- [1] Coast J (1946) *Railroad of Death*. Hyperion, London
- [2] Eldredge S (2014) To Keep Going the Spirit: What Music and Theatre Meant to the POWs. In: *Captive Audiences/Captive Performers* pp 545-546
- [3] Parkes M (2007) Dusting away the POW blues with jungle panto. *Daily Telegraph* London 28 December p80
- [4] DE WARDENER HE Cholera epidemic among prisoners-of-war in Siam. *Lancet* (London, England) 1946 May 4;1(6401):637-40
- [5] DeWARDENER HE, LENNOX B Cerebral beriberi (Wernicke's encephalopathy); review of 52 cases in a Singapore prisoner-of-war hospital. *Lancet* (London, England) 1947 Jan 4;1(6436):11-7
- [6] MILES BE, DE WARDENER HE, McSWINEY RR et al. Renal function during emotional diuresis. *The American journal of medicine* 1952 Jun;12(6):659-66
- [7] Schrier R W (2014) Hugh Edward de Wardener: in memoriam. *Kid Intl* 85: 225-226