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## SPECIAL CONTRIBUTION

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# A Tribute to the Emperor Extraordinaire: the Legend of Professor John HC Ho

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**Figure 1.** Professor John HC Ho (1916-2005).

## INTRODUCTION

Our most respected mentor, Prof. John HC Ho, passed away peacefully on 10 August 2005 (Figure 1). He had such a legendary life and every single turn had such a profound influence, that a summary of all his greatness will be a valuable chapter in the history of radiology and oncology in Hong Kong. It is also important that

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the younger generations that did not have the fortune of being taught directly by this great teacher should learn about the origin of our heritage. The story of Prof. Ho is an inspiration to all.

## THE EMPEROR EXTRAORDINAIRE A Born Leader

Prof. Ho was born on 6 July 1916 — in the year of the Dragon — to one of the most prominent families in Hong Kong. In 1934, he enrolled into the Medical Faculty of the University of Hong Kong (HKU). With his natural leadership, he was elected the President of the Students' Union from 1939 to 1940. In the playing fields, he was the captain of many university sports teams and a champion distance runner; he was also an outstanding swimmer and diver.

The most important occasion at HKU was his meeting with Florence TY Kwok; they were subsequently married in 1940. Throughout the 65 years of their happy marriage, they were the proud parents of Catherine, Marie, and Peter (who also followed Prof. Ho's inspiration and became a radiation oncologist, and is now practising in the United States).

Prof. Ho was a selfless patriot. Upon his graduation from HKU in 1940, he volunteered for service in the Red Cross under the Chinese Defence League during the Second World War. Together with a small group of volunteers, he acquired 2 ambulances fully equipped with medical supplies and drove them to the war zone in Guangdong. He worked in the army field hospitals across China until the end of the war in 1945.

The immediate post-war Hong Kong was afflicted with widespread poverty and disease. He was posted to take charge of the Lai Chi Kok Infectious Diseases Hospital. For 6 months, he was the only doctor in the whole hospital, and the number of beds had to be increased from 50 to 100 during epidemics.

### **A Brilliant Young Trainee**

For the 30-year-old Dr. Ho, the year 1946 was a critical turning point in his life. He was awarded a British Council Scholarship for further studies in Britain. He first obtained a higher qualification in Internal Medicine — namely, Membership of the Royal College of Physicians — by examination in 1947, and was later elected to Fellowship of the Royal College of Physicians in 1963.

Furthermore, he started studying both diagnostic and therapeutic radiology in London. He first obtained the Diplomas in Diagnostic Radiology and Radiotherapy of the Conjoint Board of the Royal College of Physicians and the Royal College of Surgeons (England) in 1947. From 1954 to 1959, he further obtained Diagnostic and Therapy Fellowships of the Royal College of Radiologists through examination. He was one of the very few radiologists who obtained qualifications in both specialties.

### **The Giant who Made History**

In 1949, Prof. Ho returned to Hong Kong to join the Radiological Sub-Department, under the government Medical and Health Department, and became consultant in charge of the radiology and oncology services for the whole territory 1 year later. Prof. Ho started virtually from scratch at a time when oncology was poorly recognised. He had to set up the infrastructures for the whole spectrum of cancer services — from diagnosis to the best possible cancer treatments and terminal care. One of the first advances he made to minimise patients' suffering was to obtain financial support from Oxfam in 1956 to build a 32-bed hostel for patients with cancer, nearby Queen Mary Hospital.

The next milestone expansion was the opening of the Institute of Radiology and Oncology at Queen Elizabeth Hospital in 1964. With a generous donation from the Royal Jockey Club, the 4-storey wing composed of radiology, radiotherapy and oncology, and nuclear medicine departments was built and equipped with the most advanced facilities at that time. The radiotherapy and oncology department was among the first in Asia that was equipped with the new high-energy radiotherapy machines (6-MV Linear Accelerators and 35-MeV Betatron) — equipment that Prof. Ho needed to develop sophisticated techniques for treating nasopharyngeal carcinoma (NPC), a fatal cancer prevalent among the southern Chinese population.

He founded the Hong Kong Anti-cancer Society in 1964 and chaired it until 2000. The society was an important channel through which Prof. Ho raised extra funding and implemented his ideals for cancer-related research and assistance for needy patients. Built entirely from donations, Nam Long Hospital, the first hospital providing terminal care for patients with cancer, was opened in 1967. With extra funding from the Hong Kong Anti-cancer Society, Prof. Ho established the Radiobiology Unit at Queen Elizabeth Hospital in 1969. This unit, which contains laboratories for cell culture and for breeding and housing experimental animals, was where Prof. Ho and Dr. Dolly Huang conducted their pioneering work that provided the fundamental infrastructure for basic science research and contributed significantly to better understanding of NPC.

Another admirable contribution by Prof. Ho was the establishment of the population-based Hong Kong Cancer Registry in the 1970s to analyse the incidence and mortality rates of cancers in the territory. The registry's acceptance as a member of the International Association of Cancer Registries was a good recognition of the data quality. The registry is a crucial framework for monitoring the changes in the patterns of cancer distribution in Hong Kong. The information provided is important not only for comparative epidemiological and clinical research, but also for planning cancer services.

Every bit of expansion was hard earned, but Prof. Ho had built up such an enviable service that it was his best friend Prof. GB Ong and Prof. AJS McFadzean (the most respected professors of surgery and medicine at HKU) who first started calling him 'The Emperor' — a nickname fondly used by his peers and disciples ever since. He was later decorated with the Commander of the Most Excellent Order of the British Empire for his outstanding contributions to government service.

### **A Great Mentor**

The Radiological Sub-Department at Queen Mary Hospital took up the responsibility of teaching medical students until the establishment of academic departments of radiology and oncology at the Chinese University of Hong Kong in 1984, and at HKU in 1991. Prof. Ho was first appointed Honorary Lecturer in Radiology in 1950 and Honorary Clinical Professor of Radiation Oncology in 1983. He was hence one of the longest-serving professors. All doctors who graduated from HKU during that era had once been his students.

Prof. Ho also set up intensive training programmes not only for radiologists and oncologists, but also for medical physicists and radiographers. His establishment of a strong link with the Royal College of Radiologists in the late 1970s was an important foundation for training more local trainees with limited resources. It was through Prof. Ho's vigorous efforts that arrangements were made for external examiners to come to conduct annual joint examinations for Fellowship of the Royal College of Radiologists in Hong Kong. This arrangement greatly facilitates both local trainees and those in other Asian countries.

So far, 4 generations of radiologists and oncologists can trace their lineage to Prof. Ho as their original mentor; the department heads in all the major oncology centres are his disciples. Those fortunate enough to have been his staff will always remember him as a fearless fighter who would never accept 'no' for an answer. He always preached that cancer treatment must be based on scientific evidence, and if there was none available in the literature, one should try to secure the evidence through research. He placed great emphasis on accurate assessment of measurable disease, meticulous record keeping, and use of correct terminology. Prof. Ho was a role model with impeccable integrity. He was a constant source of inspiration and strength, and was widely respected and loved by his pupils and staff.

When Prof. Ho retired from public service in 1985, his pupils and colleagues worked together to set up 'The Ho Hung-Chiu Medical Education Foundation' as a tribute to honour this legendary mentor and to continue his spirit of promoting education and research. The Foundation strives to provide additional funding for commissioned training, scholarships, fellowships, and research.

Prof. Ho continued to work untiringly as the Honorary Consultant at the Baptist Hospital for another 15 years before he truly retired from the medical profession.

### **An Internationally Renowned Scientist**

One of Prof. Ho's greatest achievements that brought him international recognition was his monumental works on NPC. His bold postulation that early exposure to preserved foods was an important causative factor was supported by subsequent epidemiological surveys. The identification of carcinogenic nitrosamines in salted fish and experiments showing induction of nasal cancers in albino Wistar rats by feeding them

salted fish provided useful information on the possible aetiology of NPC.

Other important discoveries in the 1970s, achieved in collaboration with international renowned scientists, included the recognition of the strong association between Epstein-Barr virus and NPC, and the detection of antibodies against Epstein-Barr virus-associated antigens in patients during subclinical disease. These findings contributed significantly to a better understanding of the carcinogenesis of NPC, as well as to the development of useful tumour markers for early detection.

One of Prof. Ho's greatest contributions in clinical research was the design of an accurate cancer staging system so that appropriate treatment strategies could be tailored to patients with different patterns of failure. He strongly advocated that a customised staging system should be used for NPC because its natural behaviour and therapeutic considerations are so different from the other head and neck cancers. The incorporation of Prof. Ho's concepts in the current staging system by the International Union Against Cancer and the American Joint Committee for Cancer Staging and End-results Reporting was a vivid recognition of his contribution.

The radiotherapy techniques designed by Prof. Ho were some of the finest 2-dimensional techniques at that time, and the achievement of a 5-year disease-specific survival of 52% during 1976 to 1985 was the first breakthrough for what used to be an inevitably fatal cancer. Prof. Ho published more than 160 chapters in books and papers in international journals.

### **Honours**

The honours that Prof. Ho received are phenomenal not only in terms of number, but also in terms of global extensiveness. The most prestigious ones include the following:

- Europe: Order (1966) and Commander (1985) of the Most Excellent Order of the British Empire by Her Majesty Queen Elizabeth II, Cavaliere of the Order 'Al Merito della Repubblica Italiana' by His Excellency The President of the Republic of Italy (1982), the 32nd Skinner Lecture by the Royal College of Radiologists (1967), Certificate of Appreciation by the International Union Against Cancer (1990), the First Werner Henle's Memorial Lecture and the Award by the International Association for Research on Epstein-Barr Virus and Associated Diseases (1990, 1996);
- North America: Honorary Fellow of the American

College of Radiology (1972), the first Gold Medal and the Inaugural Lecture of the del Regato Foundation (1977), Gold Medal and the Fifth Annual Lecture of the Gilbert H Fletcher Society (1980), Gordon Richards Memorial Lecture by the Canadian Association of Radiologists (1984), the Albert Soiland Memorial Award (1987);

- Australia: Honorary Fellow of the Royal College of Radiologists of Australasia (1971); and
- Asia: the First Sir Patrick Manson Gold Medal (1974), Honorary Doctor of Science (1974), and the Sixth Digby Memorial Lecture (1974) by the University of Hong Kong, Award by the Asian-Oceanian Congress of Radiology (1995), Honorary Fellow of the Hong Kong College of Radiologists (1995).

### **Eternal Influence**

With all these eminent achievements, Prof. Ho was indisputably the Father of Radiology and Oncology in Hong Kong. He greatly influenced our course of history and helped put Hong Kong on the world map.

As a result of his warning against the southern Chinese habit of feeding babies at weaning age with salted fish, and the increasing adoption of a western diet, the age-standardised incidence rate of NPC in Hong Kong dropped by 40% for males and 47% for females during a 25-year period (1975-1999). Furthermore, it was the enthusiasm that he inspired in his disciples that led to continued efforts in improving treatment results. The achievement of a 5-year survival of 80% for patients treated in recent years (1996-2000) was the fruit of the seeds that Prof. Ho sowed during his reign. It was his lifelong crusade against cancer that led to both the cure and prevention of a major cancer in his home country.

No words could adequately express our profound sadness and our gratitude for the unique heritage that Prof. Ho has given us. His spirit will live eternally in our hearts. Let us follow his quest of offering our very best for our patients and let us join to pay tribute to a Great Giant — Emperor John Ho.