

Autobiographical Essay

Introduction of “Oncology” as a clinical discipline in the English-speaking world

Kamal Malaker

ICM Department, Ross university School of Medicine, Portsmouth, Dominica

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Cancer patients in the past had been treated by various clinical specialists, according to their training and knowledge. As it was realized that they are better treated by a multidisciplinary team of specialists, several prominent Cancer Surgeons in London UK, conceived of bringing management of cancer under one clinical discipline. The word “Oncology” was imported from Soviet Russia to Hammersmith Hospital in London. Cancer Surgeons in London quickly realized the potential of the word “Oncology. With their initiative “British Association of Surgical Oncology” was formed in 1973 in London. From there the concept of “Oncology” as a clinical discipline spread to the rest of the English speaking world and elsewhere.

Key words: Introduction, oncology, clinical discipline, clinical practice, cancer, Cancer patients,

INTRODUCTION

I handed over my immigration form to the officer. In the box for occupation I had written “oncologist”. Expecting to be asked for clarification, I was surprised when instead, with a deep sigh, the officer said, “My wife died of cancer two years ago.” I was on a developing island nation, deep in the Caribbean, and even the immigration officer knew what an oncologist does. This happened a few years ago. That would not have been the case, even in developed English speaking countries, just a few decades earlier.

Surgeons have handled Cancer for centuries. This is a disease known to have occurred in prehistoric animals, as noted in dinosaur fossils (Rothschild, Tanke, Helbing, & Martin, 2003), as well as among members of several Egyptian royal families (Ruffer & Willmore, 1913; Zimmerman, 1981).

Even though physicians have known cancer from antiquity, until as late as the twentieth century, cancer patients’ special needs were far from being appreciated by the treating community. The need for a specialist’s

expertise was yet to be conceptualized.

In modern times, most cancer patients are first seen by a surgeon and then referred to other specialists for their technical skills and expertise. Special hospitals for cancer treatment have been built, i.e., the Royal Marsden Cancer Hospital in London, UK; the Memorial Sloane Kettering Hospital for Cancer and Allied Diseases in New York; Princess Margaret Hospital in Toronto, Canada; Institute Gustav - Roussy in Paris; the Radiumhemmet Centre at Karolinska Institute in Stockholm; Tata Memorial Hospital in Mumbai, India, etc. In these specialised hospitals, cancer patients were treated under one roof, for convenience. Management of cancer as a discipline on its own was yet to be defined.

I was a Ph.D. candidate in 1969 at the University of London, working under supervision of Mr. Ian Burn, Senior Lecturer and consulting surgeon in the Department of Surgery of the Royal Postgraduate Medical School and Hammersmith Hospital in London. (In the UK surgeons are addressed as a matter of respect and elevation of professional stature as “Mr.” rather than Dr.). A Doctoral Thesis at the University of London must be submitted through a home department.

*corresponding authors’ Email: kamal_malaker@hotmail.com



Figure 2: Regal appearance of the modern Academy of Medical Science in Moscow. This was rebuilt in 1960 and is where the Institute of Experimental and Clinical Oncology is housed.

By convention in medicine, generally basic sciences, i.e., anatomy, physiology, pharmacology, pathology, microbiology, biochemistry, etc., have been used as home departments. Clinical departments, i.e., medicine, surgery, etc., were not permitted as home departments at this point. I was not keen on submitting my thesis through any other but my host department of surgery. My career aspiration was to be a surgeon, specifically managing patients with cancer. Hence I wished to be identified as a researcher in surgery or in cancer.

INSEARCH OF AN ACADEMIC HOME

I realized I had Mr. Burn's support for finding an appropriate home department. Suggestions of carcinology, tumorology, cancer and allied diseases, and neoplasia came from friends, colleagues, and several other academic quarters. I was certain in my mind that Mr. Burn was also seeking an appropriate division which would embrace comprehensive management of cancer patients, as is done for patients with heart disease in cardiology, with gastrointestinal disorder in gastroenterology, women's diseases in gynaecology and obstetrics, etc. None of the suggested names fulfilled our objectives. In the meantime, the date of submission for my thesis was fast approaching. I kept pondering, researching, and consulting with experts in medical nomenclatures. It had been a struggle in some ways, frustrating and depressing from time to time, but an enjoyable exercise nonetheless.

After almost four years of gruelling research, experiments, and academic and extracurricular activities, I thought a break was in order. In early 1968,

an opportunity arose to visit Soviet Russia and some other Eastern European countries. At this time I was supposed to be writing, correcting, polishing, and putting the final touches on my thesis. Still, I took a break, as I did not want to miss the opportunity to see life behind the Iron Curtain. In spite of being away from the lab and from work, I could not stop thinking about the choice of a home department day and night, mornings and evenings, even while I was thousands of miles away.

In Moscow I renewed my acquaintance with Cytopathologist Dr. Ivan Pietzsky, a Russian-born German, whom I had met the previous year in Paris at an International Congress. He invited me to his lab in Moscow. It was a well-equipped, well-organized, and well-staffed hospital with the most impressive, royal disposition. The Institute of Clinical and Experimental Oncology was within the premises of the Academy of Medical Sciences of USSR, established in Moscow in 1952 and redesigned in 1960 (Fig. 2). Here cancer patients were seen by various specialists as dictated by the diagnosis and for specific clinical needs and the skills the specialists could offer. At that point it dawned on me that this was the name we were looking for: oncology, as an all-encompassing discipline for the treatment and management of cancer, like surgery or gynaecology. A quick review of dictionaries in Eastern European languages (helped by my Russian friend) indicated Eastern European countries had been using the word "oncology" for centuries to describe the study of tumour mass. "Originally derived from the Greek *o(n)glos* + *logos*, *onglos* means "bulk or mass" and *logos* means "studies or treatise" (BioMedima, n.d.)." Hippocrates, around 400 BC, coined the word



Figure 3: Mr. J.I. Burn, internationally renowned breast surgeon and a historical figure in making oncology a unique discipline.

“carcinomas” to describe a cancerous lesion resembling a crab. Almost 600 years later Galen, around 200 AD, adopted the Roman word “oncos” (swelling) in relation to tumour, which was the beginning of the word “oncology” (“History of Cancer,” 2005).

During the same trip I had the privilege of visiting oncology hospitals in Kiev in the Ukraine under the close supervision of the “In tourists” and later in Athens, Greece. I was informed that such oncology centres did exist in some of the Baltic States, for example, in Leningrad, Minsk, Tashkent, Yerevan, Tbilisi, Baku, etc. I had the privilege of visiting the Oncology Centre in Leningrad (present-day St. Petersburg), and in Tashkent at a later date. Interestingly, although the Greeks contributed much in naming the discipline of oncology, during my visit, none of the main oncology hospitals in Athens in 1968 bore “oncology” in their names. It seemed that while Eastern European countries, especially Slavic ones, had already adopted the word “oncology” in their day-to-day medical vocabulary for the management of cancer, it had not worked its way through to Western Europe, especially the English speaking world. Oncology was coined in 1857 from modern Latin and was included in the Cambridge English dictionary, which provoked little or no excitement for its usage in clinical medicine (Harper, 2001-2012).

I returned to London full of enthusiasm and conviction that we had found the name for our cherished clinical discipline and the name of a host department for my thesis, which would be oncology.

IN PURSUIT OF ONCOLOGY

By this time Mr. Burn (Fig. 3), a young, dynamic, tireless, thriving academic surgeon at Hammersmith Hospital and the Royal Postgraduate Medical School of London University (Fig.1, the original facade of Hammersmith Hospital), was ever busy with patients, teaching, cancer research, cancer screening, and public education programmes. In spite of heavy commitments at work, he made time for his lifelong loves, cricket and marathon running.

I was impatient and could not wait to divulge the discovery I had made during my Eastern European trip. Mr. Burn, my supervisor, always had time for me. It was between 5:30 and 6:00 pm the day after his operating session that he agreed to see me in his office. With him was Mr. Sellwood. Ronald Sellwood, later to be Professor and Director of Department of Surgery, Manchester University, has a razor-sharp intelligence, splendid analytical mind, unassuming personality, and a wonderful sense of humour.

I indicated to Mr. Burn that we were on our way to finding the name of a host department for my doctoral thesis. The word “oncology” sounded unfamiliar. I could see curious expressions on their faces, which I can never forget. I explained to both of them the Greek origin of the word and widespread usage of “oncology” in several Eastern European hospitals and universities. I explained its linguistic roots and the meaning and scope of the word as used in clinical medicine in Eastern Europe and Soviet Russia. As time went by, I



Figure 1: The imposing Edwardian Facade of Hammersmith Hospital in London, which has graced the Hospital from its very outset, was built in 1912. Explosive changes have taken place both structurally and in advances in medical science behind this graceful, serene facade.

felt both Mr. Burn and Mr. Sellwood were beginning to understand the profundity of the word “oncology”, which must have struck a harmonic chord in their minds. A few days after our meeting, Mr. Burn confided that he would be happy to support my application to London University to accept oncology as my home department. Having had further discussions with Professor Selwyn Taylor, an eminent thyroid surgeon and the Dean of the Royal Postgraduate Medical School at that time, I took all the necessary procedural steps to apply to the Senate of London University. My request was eventually turned down for not having any precedence or an established clinical or non-clinical department within the University’s academic arena.

At that point I realized that it was a futile exercise to try to establish oncology as a discipline for my purposes. I was allowed to submit my thesis through cytology cell biology as my host department, and I successfully defended my dissertation and obtained my Ph.D. degree from London University.

Mr. Burn envisioned that treatment and management of cancer patients needed to be done under one roof and within one concerted program. He realized that a truly interactive multi-disciplinary team of cancer specialists and support services must manage cancer patients. Therefore, training cancer specialists, particularly training *surgeons*, was essential and was a priority.

Under the leadership of Professor Ian Aird, the then-Professor Director of the Department of Surgery,

Hammersmith Hospital developed several internationally recognized and highly respected subspecialties, i.e. cardiothoracic, vascular, renal, plastic and reconstructive, neurosurgery, etc.

Immediately before his untimely death in his early 60s, which devastated the surgical community worldwide, Professor Aird charged Mr. Burn with developing a cancer surgery section within the directorate of surgery (Burn, 2007). Professor Aird’s successor, Professor R.W. Welbourn, having recognized the need for and the prospect of having a section of cancer surgery at Hammersmith, engaged Mr. Burn and Mr. Sellwood to develop the speciality breast clinic focused on cancer (Burn, 2007). The need for specialist training in surgery for management of cancer was still very close to his heart. This was a mammoth task. Cancer surgery was traditionally done by general surgeons, without any special training or insight into the biology that guides the surgery of cancer patients. Education and re-education of these highly respected, technically savvy professionals must be hugely challenging. Medico-politically, it needed astute manoeuvres without upsetting the surgical community. Mr. Burn needed a meaningful name for cancer treatment and management to sell it to the surgical community. To develop a surgical cancer service, “surgical oncology” sounded perfect.

Professor Ronald Raven, a teacher, an academic, a prolific writer, and an internationally respected cancer surgeon, for many of his pioneering works was at the



Figure 4: Professor Ronald Raven, eminent cancer surgeon of Royal Marsden Hospital, London, without whose patronage, the establishment of the subspecialty of surgical oncology and thereafter oncology as an independent discipline perhaps would not have been a reality.

Royal Marsden Cancer Hospital in London. Professor Raven also had the same vision for the need for specialized training for all cancer surgeons, which necessitated establishment of a subspecialty of cancer surgery. Professor Raven became a member of the council of the Royal College of Surgeons of England (Fig. 4). He was a strong proponent of Mr. Burn's vision and a sort of mentor to him in the process of developing surgical oncology as a subspecialty (J. Burn, personal communication, October 21, 2010; Burn, 2007).

Having unmitigated support from Professor Raven and Mr. Burn, oncology in general and surgical oncology in particular positioned itself to fill up the ill-defined area of cancer management in the UK and elsewhere.

With support from Prof. Raven, on 7 October 1970 the Royal Society of Medicine formed the section of oncology under the chairmanship of renowned cancer researcher Sir Alexander Haddow, Director of Chester Beaty Cancer Institute in London (Burn, 1998; Burn, 2007).

On 29 September 1972 the British Association of Surgical Oncology (BASO) was formed. Prof. Raven was elected as the first president (Burn, 2007). I was invited to be a founding member of BASO. I was Senior Registrar in the Radiotherapy Department at Hammersmith Hospital and a tutor in radiotherapy at London University at that time. I was one of few

relatively junior non-surgical founding members of the British Association of Surgical Oncology (Burn, 1998). I guess I was offered this privilege due to my association with Mr. Burn or perhaps as a gesture for importing the term "oncology" from the East. The first Annual Scientific meeting of BASO was held on 8 June 1973, at the premises of the Royal College of Surgeons of England in Lincoln's Inn Fields, London. The theme of that meeting was "Should Lymphadenectomy be discarded?" (Burn, 2007; I. Burn, personal communication, October 21, 2010).

I was questioned by many participants at that meeting about oncology and its meaning and scope of activities. The word "oncology" was catching on, I expect due to its wider and perceived inclusiveness. The dreaded term "cancer" to the general public spelt nothing but suffering, desperation, and death. But the term "oncology" brought a glimmer of hope, the strength of a team, and a will to fight and live. It made people think more positively about their illness, at least for the short term. The professionals, I assume, also felt the need for a unified, structured, clinical discipline with more cohesive inter-disciplinary and collegial interactivity. The public perception is most likely a deeper commitment to support its cause in a variety of ways.

In 1974 the Radiotherapy Department at Hammersmith Hospital changed its name to Radiotherapy and

Oncology and soon after, to Radiation Oncology. The Royal College of Physicians of London established a sub-speciality of Medical Oncology in 1973. By the mid-seventies oncology as a discipline for cancer management was widely used in the UK. Several oncology centres were established, which offered comprehensive, multidisciplinary cancer management, research, and academic programmes.

The British Association of Surgical Oncology matured and advanced to become the European Society of Surgical Oncology, which was formed on 19 October 1981 in Lausanne. Mr. Ian Burn was the President of BASO (1981-83) at that time. Prof. Umberto Veronesi, a well-known breast surgeon from Milan, became the first president of the European Society of Surgical Oncology (ESSO), with Mr. Burn as Vice President (Burn, 1998). On completion of Prof. Veronesi's presidential term, Mr. Burn became the president (Burn, 1998). The vision of Mr. Burn and Prof. Raven, propagating surgical oncology, did not end there. Now the entire world was on their radar screen. On February 28, 1992, because of the initiative of Mr. Burn, Prof. Wally Temple, and Prof. Ronald Raven, the World Federation of Surgical Oncology Societies (WFSOS) was formed in a meeting in London at the Royal Society of Medicine. At its inception there were thirteen representative (Burn, 1998) societies from various countries. This has now grown to more than 33, representing nations from both the English and non-English speaking world (Dr. J. Jaskiewicz, personal communication, February 29, 2011). Mr. Burn became its founding president and Dr. Wally Temple of Canada was a forceful and dynamic vice president (Dr. J. Jaskiewicz, personal communication, February 29, 2011; Burn, 1994). Thus the term "oncology" was infused not only in British and English speaking countries, but also the world at large. Its profound impact on the way we treat and manage our cancer patients reverberated worldwide.

The word "oncology" is said to have been included in the Cambridge Dictionary more than 60 years earlier; *Acta Radiologica*, an English-language cancer journal began publication in Sweden in 1921. It changed its name to *Acta Oncologica* in 1963 (V. Haraldsdotter, personal communication, March 16, 2011). This English language cancer journal left little impression on the English-speaking world. Highly thought of Russian language scientific journal of oncology, *Voprosy Oncologii (Problems in Oncology)* started publishing from Leningrad's prestigious Academy of Medical Sciences in 1955 (Prokhorov & Waxman, 1973). Unfortunately, this highly sought-after journal had very little impact on influencing the West to think in terms of oncology as a unique discipline, until its and ASTRO, incorporated oncology in defining their status and scope of activities. Radiotherapy changed to

rediscovery in Moscow and some other Eastern European countries and its introduction to Hammersmith Hospital and the Royal Postgraduate Medical School of London. Professional and academic prowess and the persuasiveness of Mr. Burn and Prof. Ronald Raven established the term permanently in British medicine. Due to their foresight and dedication, Oncology, which describes the science and practice of treatment and management of cancer as a unique and independent discipline, became a worldwide household term. Many cancer treatment facilities adopted the name Oncology centre. It replaced the commonly used "cancer", which indeed had a very negative impact on patients and their relatives. Attending an oncology centre brought the spirit of team effort, strength of an institute, organization, and hope to patients because of its radically visionary approach.

ONCOLOGY IN NORTH AMERICA

North America, especially the United States, was well ahead of rest of the world in appreciating the need for specialist surgeons to treat cancer patients. Memorial Sloan Kettering Hospital, in association with Cornell University, under the leadership of Dr. James Ewing, slowly and formally trained a motivated group of surgeons who would be experts in cancer surgery and the application of radium to cancer patients. By the mid-30s, several surgeons were trained under the leadership of Dr. James Ewing at Memorial. He was a visionary who appreciated the need for a multi-disciplinary team for cancer management. These specially trained doctors later spread all over North America and many other parts of the world to be recognized as cancer specialists. The concept of cancer specialty emerged from Memorial Hospital in New York (Society of Surgical Oncology, 2010). Rosswell Park Memorial Hospital in Madison, Wisconsin, was soon to follow suit, becoming another important training institute for cancer surgeons.

In June 10, 1940 the James Ewing Society was formed at Memorial Cancer Centre in New York, with an exclusive membership of surgeons or cancer specialists. The James Ewing Society's annual Cancer Symposium became the most important forum for surgeons and cancer specialists. The name and trend continued until 1975, when after a joint meeting with the British Association of Surgical Oncology (BASO), in London, UK, the name of the James Ewing Society was changed to the Society of Surgical Oncology (Burn, 2007). Other cancer-related disciplines were relatively slow in adopting oncology as the nature of practice. Various oncologic subspecialties were developed slowly but surely. The learned cancer societies, i.e., ASCO

radiation oncology, and medical oncology and paediatric oncology were adopted as cancer subspecialties by the early 1980s. Gynaecological oncology as a sub-speciality, however, preceded the others by several years (Kjellgren, 1984).

Canadians were more receptive to the term oncology as a discipline and its associated subspecialties. By 1976, radiation oncology, medical oncology, paediatric oncology, surgical oncology, and gynae-oncology were established cancer treatment subspecialties in various Canadian cancer centers. When I joined Manitoba Cancer Treatment and Research Foundation (MCTRF) in 1976, all the major clinical departments had "oncology" suffixes, i.e., radiation oncology, medical oncology, etc. Several site-centered multidisciplinary cancer management teams had been developed also, i.e., head and neck oncology service, gynae-oncology service, multidisciplinary paediatric oncology, multidisciplinary breast and colorectal oncology services, etc. I guess this must have been to some extent influenced by Mr. Burn's trans-Canadian visit once in the late '60s and again in the early '70s (Burn, 2007). Moreover, several eminent Canadian cancer specialists were British-trained doctors with strong, impressive personalities, i.e., Dr. William Rider, Dr. Ray Bush, Dr. Roy Clarke at Princess Margaret Hospital in Toronto, Dr. Jim Pearson at WW Cross, Dr. Stewart Jackson, and Dr. George Goodman at BC Cancer Centre, who might have brought the concept of oncology with them or have been influenced by the changing pattern of practices in their homeland.

By the early and mid-80's Australia and New Zealand had also adopted oncology as a discipline. Australia and New Zealand created the faculty of radiation oncology within the Royal Australian and New Zealand College of Radiology (RANZCR, 2012).

WHAT IS IN A NAME?

In the antiquity, be it Egyptians, Babylonians, Jews, Indians, or Greeks, naming had a strong, powerful and to some extent mysterious bio-socio-psychological influence over people, events, society and human history at large. Therefore, "naming" took place in older civilizations within a ritualistic context, with guidance from Scripture, priests and the Talmud, as amongst ancient Babylonians and Jews. Even in modern times, corporate naming is taken very seriously. It is believed that inappropriate naming can make or break a business or an organization, so corporate naming agencies may charge anywhere from

10,000 to 80,000 USD for their services, and there has been no shortage of takers (Davis, 2010). I believe names do exert a strategic influence, which may imply

the institutes, mission, vision, and scope of activities--its regional, national or universal role. It can indicate the organization or the institute's academic, for-profit or philanthropic priorities. In the corporate world names like Coca-Cola, McDonald's, Apple, and even Warner Brothers have a huge impact on people and consumers. These are the brainchildren of astute market researchers.

HISTORY IN THE MAKING

It is understandable why the introduction of "oncology" into English medical vocabulary may have made a remarkable impact both on the public and professionals. Within the context of oncology, the most dreaded word, cancer, is de-emphasised. Cancer treatment is not done by serial practitioners but by a cohesive team. Incorporation of oncology in clinical practice brought cancer specialists from various disciplines, be they clinicians, health care professionals, academics, researchers, support services, epidemiologists, education and cancer prevention programmes-- all are under one roof, in one team, with one unique objective and goal (Malaker, n.d.). The concept of treatment of cancer patients with the help of several specialists is not entirely new. Cancer Boards had been established in many cancer treatment facilities decades earlier. In the Cancer Board, specialists served as advisors, not as team players. They represented various departments, i.e., surgery, medicine, gynaecology, and pathology, without having any commitment to the cause of patients. Specialist training and education, i.e., surgical oncology, radiation oncology, medical oncology, tumour pathologist, oncology nursing etc. Establishment of oncology as a discipline, has changed all this. I think society's understanding and appreciation of this fundamental change that is, a meeting of minds, a meeting of skills, a meeting of heart and soul, in tackling one of humanity's worst menaces by oncology and oncologists has helped its fast propagation and progress globally. A young graduate student's quest for an academic home just over 40 years ago, along with Mr. Ian Burn, Professor Ronald Raven, and some others' foresight, determination and persuasiveness are all an integral part of the history of oncology, and there is yet more to come, as history is still in the making. I am not surprised that the immigration officer in a remote Caribbean island was un-bewildered by my occupation as an oncologist.

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