



JUAN A. DEL REGATO, M.D.

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By JUAN A. DEL REGATO, M.D.
COLORADO SPRINGS, COLORADO

ALL ages and races of mankind have payed tribute to the protean biologic flaw which we call cancer. In the eighteenth and nineteenth centuries, its ravages forced some governments and benevolent organizations to provide "cancer wards" for the care of its incurable victims. The unexpected result of these charitable acts was an emotional rejection of these cemeteries for the living, which has reached contemporary days in the form of a disproportionate dread, by many, of the mere diagnosis of cancer.

In our lifetime, serious threats to man's health have been eliminated as the result of brilliant laboratory research. Moreover, the discovery of a vaccine, or of a drug, has been brought instantaneously to the individual in need: dreaded diseases, and the institutions which had been created for them, have passed to memory in unbelievably brief lapses. Understandably, a similarly fulminant and total solution of the problems of malignant tumors is expected from laboratory research. The world's best talent is at work on a myriad of approaches to answers which may have to be unraveled

from the mystery of life itself; a great deal of benefit will undoubtedly result from it, not necessarily the sought after solution of the problem of cancer. Meanwhile, unpretentiously, important lifesaving solutions have resulted from the painstaking clinical empiricism of several decades: thousands of patients benefit annually from early diagnosis and curative treatment. But the products of clinical endeavors are not as dazzling, nor are they as rapidly implemented, as those of the laboratory. Moreover, these partial solutions demand *more* specialized institutions and skills, rather than *less*.

Clinical awareness of cancer is millenary; in the nineteenth century, advances in histotechnology and microscopy permitted considerable progress in the knowledge of histopathology of tumors, and the advent of anesthesia and antisepsis permitted the development of radical surgical interventions geared to the curative treatment of some forms of cancer. Then, at the turn of the century came the discovery of radium and roentgen rays. It is a fact of significant transcendence that an understanding

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and acceptance of the need for a *cooperative multidisciplinary effort*, to face the varied demands of the patient with cancer, arose from the discovery and from the application of ionizing radiations to the treatment of disease. It became then clear that diagnostic, surgical and radiotherapeutic skills had to be blended in the decisions and skillful performances that are required to assure success.

Cooperative multidisciplinary efforts implied centralization. In the United States, in 1929, Drs. J. Fwing, R. B. Greenough and J. C. A. Gerster, members of a special committee of the *American Society for the Control of Cancer*, reported:

"We recommend as an ideal, well within the possibilities of accomplishment, the establishment of a limited number of *cancer institutes*."

The year 1929 and the early 1930s were inauspicious for a call on the necessary financial support from official and private philanthropic sources. Moreover, the main difficulty was the dearth of skilled tumor pathologists, cancer surgeons and radiotherapists needed to staff such institutions. In 1930, the *American College of Surgeons* declared a new policy:

"The merits of cancer institutes and laboratories are fully acknowledged but it is felt that there is an urgent need for making our knowledge more generally effective and that this need can be met most efficiently through the formation of *cancer clinics* in approved general hospitals."

The benefits of the implementation of this policy, in the past four decades, are limited but unquestionable: the minimum requirements of registration, consultation, follow-up of patients, etc., gave an opportunity to interested physicians for continued education in the field of tumors. But the fact remains that Cancer Clinics were not intended to be, nor have they been, an ideal way of managing the problems of the cancer patient; they have notoriously failed in University Hospitals. Organization cannot produce talent where it is lack-

ing. Opportunities for early diagnosis are persistently missed in apparently healthy individuals before they are patients in a Cancer Clinic. First treatments administered, regardless of good intentions and faith, usually seal the fate of the patient. The educational and research consequences of the cancer clinics are few.

The vast majority of the cancer patients of today are far from receiving the benefits of knowledge, facilities and skills which have been available for several decades; they have benefitted only a few. From early diagnosis to successful treatment the cancer patient is subject to a venturous course. The varied hurdles include: wishful thinking (to which physicians are not immune), geography, luck, misinformation (lay and professional), organization, luck, facilities, skills and a great deal of luck. In short, *too few make it where many could*. In practically every instance of failure there are several physicians, with varied skills, who did their diagnostic and therapeutic best; their very best was not equal to the need of the case.

Special cancer hospitals, with a full-time staff, have been seldom accepted by the medical profession in the United States, except for the care of the indigents. As a paradoxical result, many an indigent cancer patient receives the very best of surgery or radiotherapy, whereas those who can afford to pay for their treatment may have to accept a lesser fate. No one, of course, wills this to be so. The fault lies in the very character which gives strength to the practice of medicine in most other fields: a tendency to dispersion rather than to centralization. It is also true that special, segregated institutions do not necessarily impart their knowledge and experience to the physicians around them; as a consequence they alienate the good will of those from whom they depend for meaning in their work.

Having spent all of our professional career at special cancer institutions we had long pondered these facts. A little more than 20 years ago we were invited to organ-

ize and direct a private full-time-staff Cancer Hospital; we countered this offer with a proposal to try a new approach: a part-time-staff Cancer Hospital to work in conjunction with a General Hospital, blending the advantages of special institutions with those of a general hospital, utilizing and attracting local talent, sharing facilities, offering the benefits of multidisciplinary capabilities and creating an atmosphere of cooperation and continued education within the local medical profession; in short, a *Community Cancer Hospital*.

The idea of a Cancer Hospital evokes a costly structure, separate facilities and full-time staff; when such a hospital is organized in conjunction with a general hospital, laboratories, hospital beds, staff and many other features are shared, not only for economy, but for useful compenetration of the activities of both. As a result, there is no undesirable segregation of cancer patients, no need to waste the available surgical talents, a wider participation results and consequently a wider credit for the work done is given.

In the brief time of this presentation I should like to discuss with you some of the possibilities of a Community Cancer Hospital in reference to four of its important functions: diagnosis, treatment, education and research.

DIAGNOSIS

In the 1940s we witnessed a widespread enthusiasm for what was called *cancer detection*. The fact is that there is unquestionable advantage to the early diagnosis of many forms of cancer, but a *cancer screening examination* should not be a one-time thing; moreover an early diagnosis should logically be followed by adequate treatment. Ideally, repeated cancer screening examinations can be performed in a cancer hospital at regular, not emotional, intervals; such examinations require a careful review of details of medical history, of *non-alarming symptoms*, a check of the individual's weight curve, a repetition of

routine laboratory and roentgenologic tests, the performance of others that the interview may suggest, and a conquest of the individual's (and of the physician's) natural tendency to explain away, to gamble and to hope for the best. Indeed, these examinations can be done by any competent and willing physician; however, many practitioners, busy with the care of various ills that are already at hand, choose to refer their patients to a special center for these routine, time-consuming purposes. It is only important that the institutions do not fail to correspond ethically with the often abused L. M. D.; he is entitled to be informed first of any findings and to enter into the decisions to be taken on behalf of his patient.

The staff of a Cancer Hospital must offer appropriate consultation to physicians in the region in the various problems of differential diagnosis; it must do so without assuming, of necessity, the medical care of the patients. The clinical laboratories, the radiodiagnostic facilities, the isotope laboratories must be as adequate as required in any large general hospital. The laboratory of *histopathology* and its available skills are all important, however. A Cancer Hospital cannot capably fulfill its functions on the basis of stereotype histopathology; the department's staff must be creative, conscious of their need for clinical stimulation and capable of participating in the educational and research functions of the institution. A special institution eventually receives a large proportion of problem cases which are funneled in its direction. In order to be truly contributive, the talents of the institution must be geared to the unusual.

Once in operation the body of patients which return periodically to a Cancer Hospital offer an unequal opportunity for repeated *cancer screening* examinations. The Cancer Hospital can also offer this periodical screening to well persons registered for this purpose with the consent or at the request of their physicians. Vaginal smears and chest roentgenograms are easily done

but the delicate decisions to be taken require reflection. Moreover, cancer screening implies clinical experience and decisions on mammary lumps, prostatic enlargements, etc., which are not for the neophyte.

patient. And, the therapeutic radiologist requires, as a first condition of his adequate function, direct access to hospitalization of his patients without interference by third parties.

TREATMENT

One of the ironies that sometimes shadows the early diagnosis of cancer is that it may not be followed by proper treatment. Adequacy, not haste, is what is often needed. In the presence of what may prove to be a soft tissue sarcoma or a bone tumor, for instance, biopsy for histologic confirmation is ill advised except if the patient has been apprised and has accepted the probability of a mutilating procedure. A special institution need only be biased on behalf of its patients. Since the premises are the same, no physician on the staff of a Cancer Hospital need lack proper consultation and assistance in the management of his patients, without having to refer them elsewhere. If there is lack of skills in any of the surgical specialties, the institution and its functions will soon attract them, for a Community Cancer Hospital is not a closed-staff institution and it can bring more cancer patients to its surgeons than they are likely to find in their practice.

A very important contribution of the Cancer Hospital to the hospital complex is a sound department of radiotherapy and a capable staff of radiotherapists, physicists, clinical radiobiologists, dosimetrists, radiotherapeutic technologists, etc. Because there is a dearth of these facilities and skills, because no local effort in the field of cancer can be started without capable radiotherapy, many a community has sought to solve its problem by expending their resources in the creation of a *radiotherapy center*; what this approach overlooks is the fact that the equipment alone does not do the job, that radiotherapy cannot be segregated from the necessities of adequate histopathology and skillful surgery which need be present to benefit the

EDUCATION

Although we need more physicians with refined clinical perspicacity for earlier suspicion and detection of cancer, less and less our medical students are exposed to clinical cancer problems and to their possible solutions. The incomplete and awry fashion of their experience is only conducive to indifference or despondency. Indeed, it is questionable that the Medical School may ever fulfill its role in cancer education until the University Hospital adjoins the organization of a Cancer Hospital as the proper source of human material and as a natural stage for the purposes.

The tumor pathologists, the cancer surgeon, the therapeutic radiologist and the oncologic chemotherapist cannot be adequately trained except *in a balanced atmosphere of clinical cancer work in which each discipline contributes to the formation of the trainee regardless of the main discipline of his choice*. Specialists formed in such a background do not derive their strength from antagonisms or Messianic illusions, but from a shared understanding of the living pathology, of the behavior of tumors; their satisfactions stem from the fact that they seek to contribute to the best interest of their patients rather than to impose the limitations of their own discipline. The organization of a Cancer Hospital offers the unique possibility of carrying out these aims in harmony and understanding.

The staff of a Cancer Hospital is in possession of unusual possibilities to contribute to the continued education of practicing physicians through the use of their facilities and patients. Special courses and Seminars can be periodically offered, to which an invited Guest Faculty may contribute for everybody's stimulation.

RESEARCH

It is not often recognized that most of the advances made in the treatment of cancer in many years have been the product of clinical empiricism or research. There remains a world of untried approaches and combinations which can only be tested with abundant clinical material under responsible circumstances of well protocolled clinical research.

A singular feature of a Cancer Hospital is its Record Room, an actual depository of the observation of its patients and a most valuable source for the clinical researcher. Unlike the records of a general hospital those of a cancer hospital are not only brief accounts of hospitalization periods but a running clinical history of the patient's lifetime. Such records are not easily or economically maintained but they constitute a *sine qua non* of the enterprise.

Although the frontiers of cancer surgery seem to have been reached, the fact is that every new development in anesthesia, in vascular surgery, in antibiotics, in organ transplants, has offered renewed opportunities for approaches to cancer surgery. We cannot foretell what possibilities may remain for surgical research. The serious observation of cases as assured in a cancer hospital is paramount to our understanding of any differences, advantageous or not, introduced by changes in our customary approaches.

An important chapter of clinical research in the field of cancer has been contributed in the past 25 years by the development of antineoplastic chemotherapeutic agents. The present achievements of these endeavors are the prolongation of life of children with acute leukemia, a promise of their eventual cure and the control of some rare forms of tumor such as choriocarcinoma and myeloma. No one can gainsay the possibilities of further conquests in this field and we welcome the legion of new workers, the so-called medical oncologists, who have of late embraced our interest in neoplastic disease; they need only broaden

their acquaintance with what they call "solid" tumors. For the diagnosis of malignant tumors is not as clear cut, nor is their prognosis always as predictable as that of leukemias; the uncertainty of a serious diagnosis and the possibilities of cure by other therapeutic approaches, once recognized, impose a greater responsibility when exposing the patient to the uncertainties, or dangers, of drug therapy. A special cancer institution offers the natural circumstances for responsible, critical observation of the value of chemotherapy.

New modalities of radiotherapy are to be tried, and old ones need to be repeated with new sources of radiations, before they can be discarded. Radiotherapy as a surgical adjuvant, particularly in the form of *pre-operative irradiation* has to be tried on a large basis with proper statistical controls. Chemotherapy as a radiotherapeutic adjuvant may prove to have more merits than on its own. These possibilities of research, and many others, require the proper facilities, skills and organization which a cancer hospital can offer.

As the Community Cancer Hospital acquires the strength of years of well organized work, it may then become the natural nucleus for a larger *institute* of cancer research, to include laboratory research in some chosen avenues to avoid *me-too* research. Because philanthropy has found it easier to contribute to laboratory than to clinical research, the opposite course has often been attempted: to solve the clinical plights through the long pull of laboratory experimentation.

SUMMARY

A Community Cancer Hospital in association with a General Hospital is a fruitful possibility in almost any city of moderate size and resources. This arrangement permits the utilization of various professional talents without prejudice to their private interests; it allows for cooperation and continued education of members of the staff; it can provide the necessary facilities,

organization and skills for adequate diagnosis and treatment of cancer; it offers unique opportunities to train scarce tumor pathologists, cancer surgeons, therapeutic radiologists and oncologic chemotherapists; it provides the necessary atmosphere for

clinical research. It is the true beginning of any Regional Medical Program which touches cancer.

The Penrose Cancer Hospital
2215 North Cascade Avenue
Colorado Springs, Colorado 80907

