

Notes and Comments

Medical Oncology—A Subspecialty within Clinical Oncology*

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CLINICAL oncology is a multidisciplinary subject concerning all aspects of cancer patient management. Clinicians involved include surgical, radiation, paediatric and medical oncologists. The rapid growth and increasing complexity of clinical oncology requires the development of an appropriate academic and clinical training programme for the medical oncologist. Radiotherapy and cancer chemotherapy are subjects of such breadth and depth that no one person can be expected to cover both subjects adequately. Similarly, the complexities of surgical oncology with the necessary training for the surgical specialists preclude adequate training in all aspects of cancer medicine.

The management of cancer patients should be based on well-established standards and ensure that the patient is cared for as a whole individual. One of the consultants responsible for such activities is the medical oncologist who is likely to practice as part of a team.

The EORTC recognises medical oncology as a subspecialty of internal medicine. The specialist trained in this aspect of oncology must be fully conversant with all aspects of systemic therapy.

TRAINING

Although emphasis must be given to training in chemotherapy and other forms of systemic therapy, all aspects of clinical oncology should be taken into account during training.

Internal medicine

A sound training in general medicine is essential and forms an important aspect of training in medical oncology. Specialists in medical oncology must hold qualifications in

internal medicine with at least two years post-registration training in posts allowing accreditation in internal medicine. Some countries require three or more years accreditation in internal medicine, and the EORTC considers that two years post-registration training in this important subject is an absolute minimum.

Medical oncology

Clinical. Training of a medical oncologist should be sufficiently broad to establish confidence in his/her ability to be fully responsible for the medical care and supervision of patients with neoplastic disease, including both solid tumours and haematological malignancies requiring investigation and treatment within or outside hospitals. The education should include a study of the natural history and complications of cancer by site, prognostic factors, chemotherapy, pharmacology, side effects and toxicity, hormone therapy, supportive care and psycho-social aspects of cancer care. A study of the role of surgery and radiotherapy in the management of a cancer patient is essential. Special attention should be given to all aspects of supportive care, including granulocyte and platelet transfusions, the use of the cell separator and bone marrow transplantation. Experience in methods for the control of pain and rehabilitation is required. Didactic course work and practical experience in clinical oncology are recommended during a four-year period. Although requirements vary from country to country, a minimum clinical training period of two years within a recognised department of medical oncology is essential. It is to be appreciated that the two years of practical experience in medical oncology is an absolute minimum for accreditation. A four-year training period is recommended in order to cover tuition in all aspects of clinical oncology.

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Some countries have specialist advisory committees with power to give accreditation to training posts providing practical experience in medical oncology. Adoption of accreditation procedures for 'in post' training must be encouraged.

The number of training posts should be limited to avoid overcrowding in senior posts and such training should be carried out in accredited oncology centres, where facilities for all major forms of cancer treatment are available.

Basic sciences. Although emphasis must be given to training in chemotherapy and other forms of systemic therapy, all aspects of clinical oncology should be taken into account during training. These will include the relevant basic sciences (histopathology, haematology, epidemiology, genetics, biochemistry, endocrinology, tumour biology, immunology, clinical pharmacology and medical statistics).

Pathology. A sound knowledge of pathology is essential to understand the natural history of neoplastic diseases and their effective treatment. Modern pathology consists of many laboratory sciences which include histopathology, cytology, immunology and haematology. The medical oncologist should be familiar with the potential value of these disciplines. Aspects of the general pathology and the functional properties of tumours with their modes of spread, together with a knowledge of their effects on the metabolic, microbiological and defence systems of the body are areas which are considered to be of particular value.

The knowledge and experience should be gained through an integrated teaching programme consisting of regular clinicopathological conferences, seminars and demonstrations of biopsy and cytological material.

It would also be advantageous if medical oncologists, as part of their overall instruction, were able to spend an elective period of several months in one or more branches of pathology.

Epidemiology. This subject interests all oncologists and is an essential part of their continuing education. Clues leading to the identification of causative factors have been discovered by clinicians; this search should continue so that risk factors can be identified and used for preventative action. There is a continuing interest in the world pattern of neoplastic diseases, and there are incidence studies according to sex, age, habits, occupation, race and migrant populations.

Genetics. Genetic mechanisms are central to an understanding of neoplastic diseases and knowledge in this area is expanding rapidly.

Immunogenetics and cytogenetics are already established disciplines which contribute to the proper care of patients. The genetic inherited nature of some rare neoplastic diseases is now recognised. Genetic counselling may be important for some families with members suffering from such diseases.

Biochemistry. The growth of this subject with its academic and clinical importance is fully recognised. An increasing number of valuable investigations are available for the diagnosis and management of patients. Many patients, especially those who are receiving medical therapy or undergoing major surgical operations, require constant biochemical monitoring. The oncologist must be familiar with alterations in the general metabolism of the body caused by neoplastic diseases and with the biochemical disturbances associated with individual tumours. Present studies connected with immunodiagnosis will be important in future clinical work.

Endocrinology and metabolic medicine. This subject is expanding, and whilst the endocrine manifestations of many tumours are well-known, knowledge of ectopic hormones is increasing. The results which are obtained in patients with specific tumours such as breast and prostate carcinoma by manipulating hormonal control systems in various ways and by the administration of synthetic hormones are significant. The medical oncologist needs knowledge of this subject.

Tumour biology. Tumour cell biology and other experimental studies provide a basis for further understanding of neoplastic processes and may eventually provide the means for their control. An understanding of these subjects is necessary.

Clinical pharmacology. In the treatment of neoplastic diseases there is a wide range of chemicals which have proved beneficial and sometimes curative when used alone or in combination with surgery and radiotherapy. An understanding of the pharmacology of the chemicals in clinical use is essential for the medical oncologist. This subject is expanding rapidly so that an ever-increasing number of patients with different neoplastic diseases are receiving medical treatment alone or in combination with surgery and radiation. The medical oncologist must be familiar with the different chemical combinations to use according to their specific indications, their dose schedules, metabolism and elimination. In addition, their limitation, toxicity and chemical interactions must be clearly understood.

Research methods. Medical approaches to the

treatment of the cancer patient are undergoing a great deal of change, and training in medical oncology must take into account the importance of new developments in systemic therapy. Although not essential, a period of training in research is highly desirable. The oncologist should build up a good working knowledge of medical statistics which are widely used in clinical oncology. Methodology will include the design of clinical trials, data recording and statistical analysis. He should become familiar with different techniques for presenting data and measuring mortality, and the use of Life Tables. It is essential to know the methods used for the assessment of therapy and survival rates. Experience in Phase I/II/III trials and methods for their analysis is an important part of training.

Not more than two of the seven or eight years following registration devoted to general professional and higher medical training would be credited for research or other work which does not involve clinical responsibility for patients.

A training programme must have the objective of training a physician with a total commitment to the specialty rather than a part-time interest in the subject. The EORTC considers

that a physician with a full commitment to medical oncology is not only desirable but should be required in the future, and that the number of available posts should be increased. The specialty of medical oncology is recognised by the EORTC Administrative Board and Council.

This report is in general agreement with the recommendations on training in medical oncology published by the Joint Committee on Higher Medical Training (Royal College of Physicians), the report of the Joint Committee of the Royal Colleges in the United Kingdom, and the report by the Standing Subcommittee on Cancer entitled *National Cancer Plan—Organisation of Cancer Services* (SAC/M/SSC/78/3). These U.K. Committees have provided the framework for a national development in the subspecialty of Medical Oncology within Internal Medicine.

The report is in general agreement with proposals of the Italian Association of Medical Oncology (A.I.O.M.), L'Ordre National Des Mediciens (France), Critises de Qualification en Cancerologie adopted by La Commission de'etude, October 1981, and the proposal before the Netherlands Society of Internal Medicine.