
Proposal text for the implementation of minimal requirements for the recognition of internist-oncologist (medical oncologist) in Belgium as developed by the Belgian Society of Medical Oncology.

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Prepared by L. Dirix

1. Introduction

The Belgian Society of Medical Oncology (BSMO) is the sole national organization and representative body for those general internists who devote their entire professional activity to the treatment of patients with cancer. This national society has as main objective to be both a scientific and a professional organisation of these internists. As such the BSMO currently, as of December 2004, represents more than one hundred full-time Medical Oncologists active in Belgium. Because of the recent changes in the organisation of clinical cancer medicine and some uncertainty of the roles and responsibilities of different medical specialities in this care, the BSMO deemed it critical to rephrase and eventually redefine those criteria to which its membership (i.e. full member) and as such the Medical Oncologist (or Internist Oncologist) should correspond. The changes in university training, the need for continuous medical education, the pre-occupation of the BSMO with the quality of care and with quality control, the notion of an ever increasing role of the European Community as an organising and regulating level of authority, urges us to comply as much as possible with what has already been achieved elsewhere.

The BSMO considers it as its core belief that most patients with cancer should be treated by a multidisciplinary team in which the Medical Oncologist has a critical role insofar as treatment with medication is concerned. The Medical Oncologist is a medical specialist, whose training is characterized by a thorough and updated knowledge of general internal medicine, rendering him or her capable of appreciating the systemic nature of cancer as a disease, with its impact on patients both at a physical, social and psychological level. This generalized impact of both disease and treatment on the human body, exemplifies the need for a general basic training, and at the same time guarantees the recognition by the Medical Oncologist of the added value rendered by different subspecialities in the optimal multidisciplinary care of patients suffering from this disease. As such a maximal guarantee of quality of patient care is at the forefront of this proposal.

The European Society for Medical Oncology (ESMO) is to be considered as our mother organization. It has started an examination in Medical Oncology in 1989 for physicians actively working in the field. To guarantee maintenance and update of the knowledge, skills, and attitudes of these physicians, which is essential to the provision of excellent care, the program of continued education of medical oncology, the ESMO-Medical Oncologist's Recertification Approval (MORA) program, was introduced in 1994. The BSMO considers it critical that every member should comply with the ESMO-MORA program. This is mandatory for every junior member prior to becoming an active full member of our society. Other full members should attain this goal over a transition phase of five years starting as of January 1st 2005. The main objective of this certification system is to improve the quality of patient treatment and care, to set standards of clinical competence for the practice of Medical Oncology, and encourage a continued scholarship over a lifetime of practice. At present, Medical Oncology is a recognized specialty in 14 countries in Europe. The BSMO approves these concepts and will continue to pursue a similar recognition in Belgium.

2. Standard requirements for training in Medical Oncology

The standard requirements consist of a total training period of 6 years after obtaining an MD, beginning with training in internal medicine for at least 4 years, followed by a training program in Medical Oncology for 2 years. These 2 years need to be the last two years of these six consecutive training years. During the four initial training years in internal medicine, part of these may be organized in departments of Medical Oncology or Haematology. The specific training program in Medical Oncology must include a minimum of 2 years full-time clinical training in the diagnosis and management of a broad spectrum of neoplastic diseases. This includes the primary care of cancer patients, supervision of cancer patients in a designated medical oncology in-patient unit, oncologic consultations and consultation rounds, oncology ambulatory care, scheduled clinical conferences, performance of procedures on patients, review of imaging, pathology, and other diagnostic materials, other direct patient care, attending national and international scientific meetings, and critical reading and interpretation of medical literature.

Clinical activities should include translational research involving patient contact, care, and treatment. Research experience for 1 or more years, including international training, is strongly recommended.

The Belgian Interuniversity Course in Medical Oncology, organized in cooperation with the BSMO is mandatory for a Medical Oncologist in training and is recommended as part of the continued education of medical oncologist thereafter.

Trainees are therefore urged to become junior member of the BSMO once they embark on this training program.

3. Special requirements for training in Medical Oncology

The Medical Oncology program responsible must be qualified to supervise and educate trainees in Medical Oncology. Thus, the responsible physician must be certified in Medical Oncology. He or she will have a major commitment to the training program and related activities, and must be based full-time at the primary training site of the Medical Oncology program. This physician needs to be an active full member of the BSMO and evidently of the ESMO.

The Medical Oncology training site must include at least three full-time qualified Medical Oncologists, and each of them must devote substantial time to teaching, research, administration, and/or the critical evaluation of the performance, progress, and competence of the trainees. The teaching staff must demonstrate an interest in teaching, and set an example for trainees by documented engagement in the following pursuits: actively sharing in a Medical Oncology clinical practice; continuing his/her own medical education; active membership in regional, national and international scientific societies; active participation in research; and presentation and publication of scientific studies.

The educational program in Medical Oncology must be organized to provide training and experience at a level high enough for the trainee to acquire the competency of a specialist in the field. The program must emphasize scholarship, self-instruction, development of critical analysis of clinical problems, and the ability to make appropriate decisions. Appropriate supervision of the trainees must be provided for the duration of their entire educational experience. Medical Oncology training programs must provide an intellectual environment for acquisition of the knowledge, skills, clinical judgement, and attitudes essential to the practice of Medical Oncology. This objective can only be achieved when appropriate resources and facilities are available. Professionalism must be fostered during Medical Oncology training. In addition to mastering the comprehensive clinical and technical skills of the consultant Medical Oncologist, trainees are expected to maintain the values of professionalism. These values include placing the needs of one's patient ahead of one's self-interest, being responsive to the needs of society, and maintaining a commitment to scholarship and high standards of related research.

The clinical setting must include opportunities to observe and manage patients with a wide variety of neoplastic diseases on an in-patient and out-patient basis. The trainee must be given the opportunity to assume the continuing responsibility for both acute and chronically ill patients in order to learn the natural history of cancer, the extent of the effectiveness of the various therapeutic programs, and how to impart information to the patient, including bad news. Modern in-patient, ambulatory care, and laboratory facilities necessary for the overall educational program must be available and functioning. Specifically, at the primary site, there must be adequate pathology services, modern diagnostic radiology services, resources for nuclear medicine imaging, blood banking and blood therapy facilities, and facilities for clinical pharmacology and tumor immunology. A general surgical service and its support must be available, in addition to access to radiation therapy. The program must also include attendance at a multidisciplinary tumor conference, and clinical cancer protocol studies applied according to the guidelines for good clinical practice. Having obtained certification in Medical Oncology, the specialist is expected to update the acquired skills and knowledge by participating in Continuing Medical Education programs such as courses, symposia or self-learning processes on a regular basis. It is also essential to have the support of oncology nursing, pharmacy, rehabilitation medicine, palliative care medicine, and dietetic and psychosocial services so that the trainee can perceive the role of other specialities in the total care of the cancer patient.

4. Competence of active knowledge

The following curriculum is an educational framework for the training of physicians in Medical Oncology. However it also applies to active Medical Oncologist and it is their responsibility to keep knowledge and skills updated. The BSMO considers it as one of her founding principles to support its full members in this endeavour.

Cancer biology

A Medical Oncologist should know the biology of normal cells and the basic processes of carcinogenesis. He or she should have an in-depth understanding of gene structure, organization, expression, and regulation. A fundamental understanding of the cell cycle, its control by oncogenesis, and its interaction with therapy is important. Understanding of tumor cell kinetics, proliferation, and programmed cell death, and the balance between cell death and cell proliferation is deemed essential. Medical Oncologists should be familiar with molecular techniques, such as polymerase chain reaction, chromosomal analyses, gene expression profiling, proteomics and other techniques of molecular and tumor cell biology.

Tumor immunology

A basic knowledge of the cellular and humoral components of the immune system and the regulatory action of cytokines on the immune system is required. This includes the inter-relationship between tumor and host immune systems, including tumor antigenicity, immune-mediated antitumor cytotoxicity, and the direct effect of cytokines on tumors.

Etiology, epidemiology, screening, and prevention

An understanding of the etiology of genetic and environmental factors in oncogenesis is essential. Our members should have a basic knowledge in epidemiologic factors and descriptors of disease. This implies an understanding of the basic principles of screening and risk assessment. They should know the sensitivity and specificity of the test employed and the cost-benefit ratio. They should know the situations in which screening has a well-defined role and the situations in which the role of screening is unclear or not defined. They should be aware of the principles and indications for genetic screening and

counselling. They should know the value of prevention in cancer development and what primary, secondary, and tertiary preventive measures may be taken to prevent cancer development.

Clinical research including statistics

Knowledge about the design and conduct of clinical trials is considered critical. This knowledge should include the following: clinical trial design, phase I–II–III trials; review of the ethical, regulatory, and legal issues involved in study design; criteria for defining response to therapy; tools used to assess quality of life; basics of statistics, including statistical methods, requirements for patient numbers in designing studies, and proper interpretation of data; toxicity assessment and grading; role and functioning of the institutional review board and ethical committees; experience obtaining informed consent from patients; government regulatory mechanisms of surveillance; cost of therapy and the cost-effectiveness of therapy; and they should be able to critically evaluate the scientific value of published articles and their influence on daily clinical practice.

Basic principles in the management and treatment of malignant diseases

The management of malignant diseases requires the expertise of many different medical subspecialties, and the majority of patients with malignant diseases are best managed in a multidisciplinary approach with integration of the various subspecialties because of increasing complexity of modern treatment. A Medical Oncologist should recognize the contributions of each of these subspecialties in making the diagnosis, assessing disease stage, and treating the underlying disease and its complications. Particular attention of the Medical Oncologist should be directed to the assessment of co-morbid medical conditions, that may affect the toxicity and efficacy of a particular treatment, in order to formulate a treatment plan and be aware of the special conditions that influence the treatment of the growing population of elderly patients with malignant disorders.

Pathology/laboratory medicine/molecular biology

A Medical Oncologist needs to be able to review biopsy material and surgical specimens with a pathologist. They appreciate the role of the pathologist in confirming the diagnosis of cancer and in determining the severity and extent of disease. Medical Oncologists are familiar with newer pathologic techniques and the contribution of these techniques to the staging and management of patients with cancer. Medical Oncologists should know what laboratory testing is appropriate in the staging and follow-up of patients. They should appreciate the utility of markers (serum tumor markers, cell membrane markers, DNA markers) and recognize their limitations.

Staging procedures

Medical Oncologists should know the tumor–node–metastasis staging system and how to stage a cancer patient. They should know the indications for clinical, radiographic, and nuclear medicine imaging procedures in the diagnosis, staging, and follow-up of patients with malignant diseases. They should learn to assess response to treatment using these tests.

Therapy

Surgery

By interacting with surgeons, the Medical Oncologist should develop an understanding of the indications and contraindications of surgery. They should become knowledgeable about the role of surgery in the staging, cure, and palliation of patients with malignant diseases. The trainee should become familiar with the indications of organ preservation and the sequencing of surgery with other treatment modalities. They should recognize the risks and benefits of surgery as a definitive treatment and as an adjunct to radiotherapy and/or anticancer agents and be aware of postoperative complications.

Radiation oncology

The Medical Oncologist should be familiar with the principles of radiation biology and the indications of radiation therapy as a curative and palliative modality. They should be familiar with the principles of treatment planning and dosimetry. They should appreciate when radiation therapy should be sequenced with surgery and/or anticancer agents. They should recognize both the acute and late effects of radiation therapy. A part of up to three months of the training program in Medical Oncology can be organized in a department of Radiation Oncology.

Anticancer agents

A Medical Oncologist should be familiar with the indications and goals of useful treatment with anticancer agents in primary and recurrent malignant disorders. He or she should know the usefulness of these agents in the neo-adjuvant, concomitant, and adjuvant setting, and their application as a radiation sensitizer. The importance of dosing and treatment delay of specific anticancer agents in a curative setting is considered as a guiding principle of drug treatment. Assessment of a patient's co-morbid medical conditions in order to determine the risk/benefit ratio of treatment with anticancer agents for that individual patient is at the heart of the activities of a Medical Oncologist. Knowledge of pharmacokinetics, pharmacogenomics and pharmaco-genetics, and pharmacology in general of the various agents should be obtained. A Medical Oncologist knows the toxicity profile of each anticancer agent, including long-term hazards, how to adapt the dose and treatment schedule according to the individual patient in case of organ dysfunction, and how to handle these complications.

Biologic therapy and Targeted Treatments

A Medical Oncologist should be familiar with the activities and indications for biologic therapy, including cytokines and hematopoietic growth factors. Knowledge should include the spectrum of specific side effects and their management and therapeutic combinations with chemotherapy. The trainee should also be familiar with basic concepts of targeted molecular

therapies, such as monoclonal antibodies, tumor vaccines, cellular therapy, and gene-directed therapy. Knowledge concerning combination therapy, drug interactions and toxic reactions

Supportive and palliative strategies

Supportive therapy during anticancer therapy is a necessity and the Medical Oncologist is to be considered an expert in this field within a Multidisciplinary team. The indications of the different supportive treatments and their limitations and side-effects is known. Similar knowledge is accepted for palliative care. A Medical Oncologist knows when palliative care is indicated. Palliative care is considered as an integrated part of medical oncology, and similarly has a multidisciplinary dimension.

Dr. L. Y. Dirix
Medical Oncology
AZ Sint-Augustinus
Oosterveldlaan 24
2610 Wilrijk
Belgium
Fax : 00 32 3 4433009

luc.dirix@pandora.be