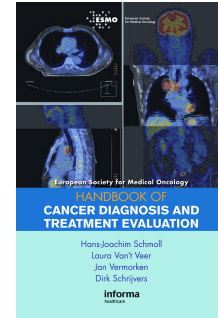


ESMO Handbook of Cancer Diagnosis and Treatment Evaluation



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Dr. Giannicola D'Addario
Schaffhausen Oncology
Schaffhausen, Switzerland



The latest publication in the ESMO Handbook series entitled “Handbook of Cancer Diagnosis and Treatment Evaluation” is edited by H.J. Schmoll, L. Van't Veer, J. Vermorcken and D. Schrijvers. The handbook indeed addresses a much broader topic, well described in the foreword of P. G. Casali, which could be characterized as “clinical methodology” in oncology. It covers topics related to cancer diagnosis, imaging, and the use of tumor markers, as well as subjects surrounding cancer therapy e.g. toxicity issues, psychosocial aspects and quality of life questions. As a whole, the handbook aims to link different qualities and technologies needed in daily oncology practice, concentrating on how to integrate and use today’s treatment options in a rational way. In short, this handbook helps the clinician in rationally guiding patients through oncologic therapies and making the best use of available technology.

Each of the 17 chapters is concise, clear and very much up-to-date. The different topics are presented with short introductions and overviews, followed by concise recommendations on the best clinical use of a given technique. Several tables facilitate orientation and everyday usage. Future perspectives are also highlighted and a brief list of further key reading is provided.

In their introduction Drs. Vermorcken and Schrijvers provide an overview about the actual and future developments of the global cancer burden including cost estimations regarding diagnosis and therapies. They disclose the crucial role of diagnosis and staging as well as the growing importance of prognostic and predictive information. Prevention of toxicity to preserve the quality of life of the patient is an important goal, affecting the reintegration into society after treatment.



Chapter 2 discusses basic techniques in histo- and cytopathology including immunohistochemistry and molecular pathology assessing DNA or RNA changes in tumor tissues. In a second part, the use of these techniques in clinical practice is explained and the most relevant examples are listed. Cancer syndromes such as familial adenomatous polyposis with associated genes are listed in table format. Future perspectives such as proteomic and genomic applications are included as well.

The third chapter deals with biomarkers in oncology, listing the most relevant tumor markers currently available with clear-cut recommendations of their appropriate application. Clinical practice use is depicted in tables and explained in the text, sorted by the respective tumor entities. Relevant international guidelines are mentioned. In addition, prognostic gene expression profiling (MammaPrint®, Oncotype DX® tests) is explained and very important general rules regarding the clinical use of tumor markers are given.

Radiological imaging is covered in chapter 4. Technique, advantages and disadvantages of conventional x-ray, ultrasound, computed tomography and magnetic resonance imaging are discussed. Concise indications in oncological situations are detailed. Regarding newer techniques, dynamic scanning of changes in blood flow, blood volume and permeability are included. Nuclear medicine imaging techniques are detailed in the following chapter 5. An overview on traditional techniques and indications is given in a table, comprising bone scan, MIBG, octreotide scan, sentinel node scintigraphy amongst others. The main part is covered by information on PET scanning, explaining causes for false-positive and false-negative results and detailing clinical applications in diagnosis, staging and restaging, monitoring of response to treatment and end of treatment evaluation. Clinical indications are listed according to tumor entity. Both chapters are indeed helpful in understanding and applying current radiological techniques.

Chapter 6 is entitled "Staging Procedures". Clinical, pathological and molecular staging is explained and followed by a comprehensive section of relevant staging procedures in clinical practice. Typical and recommended staging procedures for the most frequent malignancies are given in concise text.

The following chapter introduces patient-related and tumor-related prognostic factors. Recommendations of the European Society for Medical Oncology and of the American Society for Clinical Oncology are listed in a table. The importance of prognostic factors is clearly growing and increasingly prognostic information influences treatment decisions. In



contrast, chapter 8 deals with predictive factors, reflecting the sensitivity or resistance of a tumor to a given treatment. In the era of targeted therapies, predictive factors have gained crucial importance and in many situations, the presence or absence of a distinct marker is a prerequisite for targeted therapies. Of course, the growing body of evidence in this field not only improves treatment outcomes, but also the patient's quality of life by avoiding inefficient treatments. Also from an economic perspective, prognostic and predictive markers are increasingly relevant.

Chapter 9 provides an overview of the factors fundamentally determining anticancer treatment. These include disease-related and patient-related factors such as tumor type and stage, comorbidity and prognostic situation. Furthermore, treatment related factors and socio-cultural factors are discussed. Socioeconomic status, insurance status, family structures and many more are influencing treatment decisions. In addition, different types of cost analyses are explained comprehensively.

Chapter 10 covers issues related to treatment evaluation: from a global to personalized approach. A description of traditional treatment evaluation in solid tumors is given, according to WHO and RECIST criteria. Also, problems and shortcomings with these evaluation systems are discussed, especially in the context of new targeted treatments, where tumor shrinkage may not be a primary goal or effect of treatment. New techniques exploring tumor metabolism as well as tumor markers are explained.

Chapters 11 to 13 address different aspects of treatment toxicities. Acute and sub acute toxicities of medical anticancer treatment are discussed in chapter 11. Explanations, definitions and management guidelines of different problems like tissue necrosis and phlebitis, nausea and vomiting, tumor lysis syndrome, hematologic toxicity and others are given. Several tables allow for daily use, e.g. on extravasation and on management of nausea and vomiting. Also, current recommendations on the use of hematopoietic growth factors are given. In addition, toxic effects of newer targeted agents like skin toxicity or acute pulmonary toxicity are discussed, making this section a practical guide for clinical use.

Late toxicity, discussed in chapter 12, is defined as post-diagnosis morbidity occurring more than 1 year after diagnosis or persisting for at least 1 year. 30 – 50% of cancer patients may be affected. Methodological aspects of late toxicity reporting are discussed. The most relevant toxicities covered in this section are second cancers, cardiovascular diseases and endocrine effects. Less frequent late effects are listed. Side effects of radiation oncology and surgery are the topic of chapter 13,



giving a comprehensive overview of complications related to both modalities, each divided in acute and late effects.

The next four chapters 14 – 17 deal with psychosocial aspects, incapacity and reintegration after therapy and quality of life in general. Again, as stated in the foreword of this handbook, the authors try to bridge the gap between common study results of anticancer treatment and the real life needs of doctors and patients. The first of these chapters deals with psychosocial aspects of a diagnosis of cancer. Issues in long-term survivorship are covered and, importantly, the different vulnerability of cancer patients to experience psychosocial consequences is well explained. The role of oncologists and psychologists in this aspect of cancer care is described.

Incapacity due to cancer and cancer therapy is the next issue, this chapter describing cognitive impairment (e.g. chemobrain) as well as neuropathic problems, sexual dysfunction and others.

A very important issue, traditionally neglected in most oncology literature, is the reintegration into the workplace. Many issues regarding returning back to work and retirement are covered in chapter 16.

Quality of Life (QoL) in general is the theme of chapter 17. Mainly methodological issues of QoL recording in clinical trials are discussed, detailing also some limitations of health-related QoL capturing and reporting. The clinical impact in daily practice is discussed, e.g. when screening for symptoms, psychological and functional problems. Existing methodological and conceptual barriers to a more extensive application in clinical practice are discussed.

In his conclusion to the handbook, Dr. Schrijvers again highlights the importance of the oncologist's skills in correctly and rationally applying current techniques in diagnosis, staging and treatment evaluation as well as limiting short- and long-term toxicity and taking into account the relevant psychosocial aspects. His concluding statement very appropriately is the referencing of www.esmo.org with its growing body of up-to-date guidelines and help for oncologists daily practice.