

Challenges in Geriatric Oncology

Geriatric oncology is generating increased interest in both the oncologic and geriatric communities. Whereas geriatricians and oncologists tended to see their approaches to patients as quite different, a decade of fruitful dialogue and research has brought a more convergent view of how to provide optimal care for this growing population of patients. Geriatricians have demonstrated that a well-conducted comprehensive geriatric assessment (CGA) and follow-up can reduce mortality and functional dependence. For example, a meta-analysis of geriatric randomized trials reported that a CGA reduced relative mortality by 14%.¹ This is in the same range as the reduction obtained with adjuvant chemotherapy for breast cancer: 15% overall and 8% in patients 60 to 69 years of age.² The best way to incorporate this useful approach in the treatment of older cancer patients is the object of active research.³ Such an approach is also beginning to be incorporated in oncology practice guidelines such as the NCCN guidelines.

Another aspect of the geriatric focus that begs better exploitation by oncologists is the research on the biology of aging. Immune changes of aging, modifications of the sensitivity to apoptosis with age, telomere modifications, changes in mitochondrial activity, and increased sensitivity to carcinogens with age are a few examples. In this issue, Edith A. Burns, MD, and Elaine Leventhal, MD, PhD,

review the present status of knowledge about the changes induced by aging on immune function.

On the oncology side, several new antitumoral agents and approaches have led to a reduction in the toxicity of chemotherapy and an increase in its applicability to older patients. The introduction of anti-HT3 antiemetics has relegated the problem of nausea and vomiting several steps down the scale of toxicity considerations when treating cancer in older patients. Vinorelbine and gemcitabine, as well as taxanes, on a weekly schedule, appear also to be well-tolerated drugs in these patients. Stuart M. Lichtman, MD, and Gina Villani, MD, review some of the knowns and unknowns of the pharmacology of anticancer agents in older patients. Although the efforts have concentrated so far on the analysis of liver and kidney function, several areas remain to be explored. The effects of changes in body composition with age, the influence of comorbidity and its accompanying polymedication, and the decrease in functional reserve of major organs with aging are poorly understood. The influence of anti-convulsant medications on the effectiveness of chemotherapy in children with acute lymphoblastic leukemia patients has been recently reported.⁴ This suggests that close attention should be paid to the study of the role of concomitant medications on the effectiveness and toxicity of chemotherapy in older cancer patients.

One of the limiting toxicities in the administration of chemotherapy is marrow toxicity. The marrow reserve decreases and the incidence of myelodysplastic conditions increases with age. Lodovico Balducci, MD, Cheryl L. Hardy, PhD, and Gary H. Lyman, MD, MPH, review the physiologic aging of the bone marrow and its influence on tolerance to chemotherapy. They also review the use of growth factors to counter the marrow toxicity of chemotherapy in older patients, and they address the cost-effectiveness of such treatments. In addition, myelodysplasia can complicate treatment planning. Myelodysplastic syndromes are another of the geriatric oncology challenges. The only curative treatment available is allogeneic bone marrow transplant, which is not suitable for elderly people. Innovative approaches are needed, and Hussain Saba, MD, PhD, will review the present and future treatment options for these diseases in the next issue of *Cancer Control*.

Another possible approach to cancer management in the elderly is to try to find alternative approaches to chemotherapy. Matthew Ellis, MD, is reviewing the use of tamoxifen as a neoadjuvant treatment in breast cancer. The epidemiology of cancer in the elderly is also changing, and the incidence of brain tumors, like that of lymphomas, is increasing in the elderly. Alexandra Flowers, MD, reviews how age influences the

biology, response to treatment, and tolerance to treatment for these difficult tumors. Here again, as in too many other tumors, older patients are critically underrepresented in clinical studies.

Geriatric oncology is a young field with much room for investigators who are willing to invest energy into what will be one of the great health challenges of this opening century. With training fellowships becoming available, specific grant funding being offered, and with an international society being created (the International Society of Geriatric Oncology: siog@cdg.ch), support structures are available for those who are willing to grab them and tackle this field.

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