Mentoring Junior Faculty in Geriatric Oncology: Report From the Cancer and Aging Research Group

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Approximately 60% of cancer incidence, and 70% of cancer mortality, occurs in older adults.¹ Unfortunately, cancer care is hampered by a lack of data regarding the risks and benefits of cancer therapy in older adults.²⁻⁵ Older adults have been underrepresented on clinical trials, and geriatric issues traditionally have not been considered in oncology study design. The need for evidence-based recommendations for healthy and vulnerable or frail older adults is critical, as life expectancy increases and aging baby boomers are expected to double the US population that is aged 65 years and older by 2030.⁶

The challenge imminently facing the field of medical oncology is that there are not enough oncologists or geriatricians available today to care for this growing population of older adults with cancer. Further, there is little crosstalk between these fields that would lead to the development and design of pertinent research studies. To bridge this gap, the American Society of Clinical Oncology and the John A. Hartford Foundation supported 10 training programs in geriatrics and oncology from 2001 to 2006. Twenty-eight geriatric oncology trainees participated in the combined fellowship program at these institutions. Several other individuals have trained sequentially in geriatrics and oncology or have developed a research interest in the field of geriatric oncology. These investigators are now entering junior faculty positions. Their training provides them with the skills to design and develop research in the field of geriatric oncology and to forge collaborations with internal medicine, geriatrics, and oncology.

These new researchers are positioned not only to conduct research studies regarding the questions that are crucial to geriatric oncology, but also to promote the enrollment of older adults in cancer clinical trials. However, the progress of these young investigators who are working at the intersection of geriatrics and oncology may be hampered for several reasons. First, because of the multidisciplinary nature of their work, it may be difficult for them to find mentors at their own institutions who share their interest in the older patient with cancer. Second, the investigators are geographically dispersed. Multi-

site collaborations represent a challenge for all investigative teams, but this is particularly so for those new to an underrepresented field in cancer research. Third, many academic medical centers tend to attract a relatively young patient population. This can make it more difficult to perform geriatric oncology studies and expeditiously meet the accrual goal of older patients at a single institution. In aggregate, these barriers may limit the ability of these uniquely trained individuals to obtain grant funding and to develop and to accrue patients on to interdisciplinary clinical trials that evaluate and treat older patients with malignancies. Presently, there is no direct mechanism for junior faculty in geriatric oncology to develop collaborations and mentoring relationships with others in the field.

To address this need, junior investigators in geriatric oncology and a senior mentoring team assembled in Duarte, California, in April 2007 for the first Cancer and Aging Research Group Meeting. The meeting was collaboratively supported by the John A. Hartford Foundation and the City of Hope. The goals of this meeting were to do the following three things: provide feedback on geriatric oncology research proposals, discuss approaches to obtain funding for geriatric oncology research, and encourage collaboration/networking among junior faculty in geriatric oncology. Two days of discussion generated and fine-tuned clinical research proposals that were considered high priority in geriatric oncology. At the meeting, the junior investigators presented concepts and ongoing geriatric oncology research for critique by both their peers and senior mentors. In addition, collaborative ties were developed among junior and senior investigators with similar research interests. Three critical areas of research in geriatric oncology were deemed high priority by both junior and senior investigators. These include the assessment of physiologic age, pharmacology of cancer therapy in older adults, and cancer survivorship issues pertinent to older adults. At the end of the conference, several practical recommendations for clinical trial design emerged.

The consensus of the Cancer and Aging Research Group was that a geriatric assessment, as an assessment of physiologic age, should be included in all clinical trials that involve patients aged 70 years and older. Incorporating a geriatric assessment in clinical trials of older adults can strengthen the clinical trial design in the following ways: A geriatric assessment captures competing causes of morbidity and mortality, which can be accounted for in the data analysis⁷⁻¹⁷; a geriatric assessment would identify factors other than chronologic age that predict the toxicity risk with cancer therapy and point the way to interventions that could improve treatment tolerance; and incorporation of a geriatric assessment at sequential time points during and after therapy would provide insight into the impact of cancer therapy on an older adult's functional status, comorbidity, psychological state, and cognitive function.

The second area of research in geriatric oncology that was highlighted was the need for studies that evaluate the pharmacology of new cancer therapies in older adults. Age-related changes in renal and hepatic function may impact the pharmacokinetics and pharmacodynamics of cancer therapies. In addition, the impact of drug interactions and comorbid medical conditions on the risk of toxicity needs to be studied. Novel dosing regimens to minimize the risk of myelosuppression should be explored, and studies of supportive care measures or other interventions to minimize toxicity are of high research priority.

The third area of research that was highlighted was the long-term impact of cancer therapy on cancer survivors. One of the main goals of geriatric medicine is maintenance of function and prolongation of active life expectancy. Quality active life expectancy is dependent on an individual's function, including physical and cognitive performance. This goal is of special concern for older patients with cancer, as some complications of cancer chemotherapy treatment, including cardiomyopathy, neuropathy, or cognitive decline, may have long-term effects on independence and functional status. The interaction between comorbid medical illnesses and the long-term impact of cancer therapy has also been understudied. Although several studies on the potential impact of cancer therapy on cognitive function have emerged,¹⁸⁻²¹ few studies have addressed the impact of cancer therapy in older adults in general or in those with pre-existing cognitive impairment.^{22,23} The consensus of the Cancer and Aging Research Group was that research on the long-term impact of cancer therapy on the functional and cognitive status of older cancer survivors is of high priority.

A growing number of investigators have developed a clinical and research focus on the issues that face older adults with cancer. In this report, we highlight an approach to help these individuals gain traction as they transition from their training to become independent clinical investigators. The newly formed Cancer and Aging Research Group of junior investigators, mentored by a senior investigator team, has adopted the mission of developing and fostering collaborative research among junior investigators interested in cancer and aging to address the specific issues that face older adults with cancer. Fostering collaboration and mentoring individuals committed to this cause will substantially further the field of geriatric oncology. The Cancer and Aging Research Group has successfully competed for a grant from the Association of Specialty Professors to the American Society of Clinical Oncology Foundation to help support the next meeting of this research group. Its members currently are collaborating on prospective studies designed to address areas of high research priority in geriatric

oncology. Additional funding sources are being sought to support the ongoing mentoring and collaborative research efforts of junior investigators in cancer and aging.

AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

The authors indicated no potential conflicts of interest.

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