



Geriatric oncology

OVERVIEW

GERIATRIC ONCOLOGY: A MEDICAL SUB-SPECIALTY WHOSE TIME HAS COME

Dorothy Keefe¹ and Robert Prowse²

1 University of Adelaide, South Australia and Royal Adelaide Hospital Cancer Centre, Royal Adelaide Hospital, Adelaide, South Australia.

2 Department of Geriatric and Rehabilitation Medicine, Royal Adelaide Hospital, South Australia.

Email: dorothy.keefe@health.sa.gov.au

It is a truism that cancer is a disease of older people and that as the population ages the incidence and prevalence of cancer increases. Fifty per cent of cancers occur in those over 65 years of age and the number of people over the age of 65 is increasing steadily.¹ Cancers such as those of the colon and lung increase dramatically with age.¹

In 1981, only 9.2% of the population was aged over 65, but in 2004 that had risen to 13% and is projected to be 26-28% in 2051.² As we prevent more deaths from other diseases such as heart disease and infection, the number of cancers will continue to rise and the number of older people with cancer will also continue to increase. Mortality from cancer in the over 65s is also increasing, while it is decreasing in the under 65s.^{1,3}

Over the past 20 years, the upper age limit for many medical procedures and treatments has increased. This is partly due to the increase in life-expectancy that occurred throughout the 20th Century, the fact that older people are also fitter and healthier as they reach old age than they have ever been before and because techniques in anaesthesia and surgery have improved to allow safer operations and less morbid recovery. As with all treatments, performance status is a better predictor of outcome than is age.

However, not everything is completely straightforward in older people. Older people are not just "adults but older" just as children are not "adults but smaller". There are physiological changes that occur with ageing, as well as multiple co-morbidities which can complicate management of elderly cancer patients. Some tumours, such as breast cancer and non-small cell lung cancer, are more indolent in the elderly, while others such as lymphoma and ovarian cancer may be worse.⁴ Under-treatment may cause poor outcomes in elderly (>60 years) patients. With aggressive lymphoma for example, older patients are less likely to be treated for cure, and are less likely to survive for five years.⁵ Older women with breast cancer are less likely to be offered

enrolment in clinical trials and older patients tend to receive less aggressive diagnosis and treatment for lung cancer.^{6,8}

Onco-geriatrics: do we need it?

Over the past 15 years, cancer in the older person, or onco-geriatrics, has increasingly been talked about as a coming thing, within both geriatric and oncology circles. Meetings have been held, societies formed and positions taken. Both the Clinical Oncological Society of Australia and the Medical Oncology Group of Australia have held sessions on 'cancer in the older person' at their annual meetings; the International Society of Geriatric Oncology held its 8th meeting in Madrid in November 2007 and there are regular sessions at the American Society of Clinical Oncology about treating elderly cancer patients. This edition of *Cancer Forum* is the first one dedicated to this area and covers several of the most important issues. However, in Australia we still do not have routine, protocol-based care for our older cancer patients.

Oncologists feel every patient with cancer deserves to have a consultation with an oncologist. Geriatricians judge many of their patients to be inappropriate for oncological treatment. Neither point is fully objective and onco-geriatrics has a major potential benefit in informing both specialties. Does every elderly cancer patient need to see a geriatrician? Could we reduce the 'burden of care' by supporting our elderly cancer patients better? A proactive approach to the management of the elderly patient with cancer reduces toxicity. We should look at general clinical measures and manage underlying health problems, treat toxicities and use prophylaxis where possible. We should also make dose adjustments for renal function and ensure that older people are adequately represented in trials of new cancer treatments.⁹

In this issue of *Cancer Forum*, Khasraw and Marx discuss the use of chemotherapy in the elderly.¹⁰ We are

aware that clinical trials of new agents need to include elderly patients, as they are most likely to be major users of all new drugs. In the last five years, the upper age limit for most clinical trials has been removed. It was a first when Mabthera was introduced in the older patient before the general adult lymphoma population,¹¹ although it is now available in all adults with appropriate CD20+ tumours. Giving chemotherapy to older patients is not exactly the same as giving it to younger patients. Older patients are more prone to certain toxicities and may take longer to recover from them, but the evidence for this is not the most rigorous. Among toxicities thought to be more common are myelosuppression,¹² mucositis¹³ (although the evidence for this is particularly weak), cardio-depression, peripheral neuropathy and central neurotoxicity (cognitive decline, delirium, cerebellar dysfunction). Toxicity of adjuvant chemotherapy for breast cancer increases with age while the likelihood of receiving full dose chemotherapy decreases with age, decreasing the chances of cure.¹⁴

Both pharmacokinetic and pharmacodynamic changes occur with ageing. Pharmacokinetic changes include changes in drug distribution, metabolic and renal clearance. Steer's paper shows how misleading serum creatinine can be as a measure of renal function in the older patient.¹⁵ Unfortunately, a single answer regarding the best way to measure renal function is not yet available, but progress is being made.

Pharmacodynamic changes are harder to measure and include effects of concurrent therapies and multiple disease processes, making it hard to ascribe exactly the correct amount of responsibility to ageing per se. Older patients particularly have increased sensitivity to psychoactive drugs such as opiates and benzodiazepines, drugs commonly used by oncologists. In relation to chemotherapy, the geriatrician's mantra of 'start low, go slow' may be particularly inappropriate; it may be dangerous to begin at a lower than usual dose as the patient may suffer side-effects while not deriving any benefit from the treatment.

Rights to therapy are the same for older as for younger individuals. However, that doesn't mean that decision making is the same in an 80 year-old as it is in a 20 year-old. At 80, many people may feel that they have lived long enough and do not want their life to be prolonged, even where that is possible. That sort of feeling would be most unusual in a 20 year-old with his/her whole life ahead. Questions of competence to make a decision often arise in the elderly, particularly because of the prevalence of dementia. When the patient is competent, he or she is able to make decisions about treatment. But when competence is impaired, decision making tends to revert to families, unless other arrangements such as enduring power of guardianship, advanced directives or the appointment of a medical attorney have been made. Chemotherapy also has the potential to 'unmask' dementia. A patient may be managing to hide early signs of dementia by using all his/her coping skills. Once the chemotherapy is administered however, energy reverts to maintaining physical health and dealing with side-effects, so the ability to hide the cognitive problems is reduced. This will increasingly be an issue as the population ages and the prevalence of dementia increases.

Effectiveness is an important concept in healthcare. Time to response may have important implications. If a drug is going to take six months to work and the patient's life expectancy is short, that may be too long. Cost-effectiveness is often talked about and interestingly enough many drugs turn out to be more cost-effective in the elderly than in young/middle aged adults. Although anti-toxicity treatments are expensive, sick, elderly patients are more expensive¹⁶⁻¹⁷ and recent studies suggest older patients may derive more benefit from anti-toxicity treatments than younger people.¹⁸

Lung cancer is one of the most common cancers in the elderly population and it brings particular problems with dyspnoea, malnutrition and fatigue. Cheong's paper reviews what is known about lung cancer in the older patient, reiterating the reluctance in some clinicians to treat elderly patients with lung cancer.¹⁹ Again, renal function is critical; platinums are hard to use in renal impairment, but single agents with less toxicity do provide some benefit, as do non-platinum doublets.

Kichenadassa reports an audit of the treatment of rectal cancer in older people at Queen Elizabeth Hospital in South Australia and a review of Australian literature on the subject.²⁰ He shows that patients are not as involved in decision-making as they probably should be and that decisions are not always evidence-based.

Alam looked at decision making in elderly cancer patients and reports that physician bias, rather than patient opinion or disease characteristics, plays a large part in treatment plans for older patients.²¹ These two papers demonstrate that this is an area of increasing importance and it is to be hoped that they will become a catalyst to many other studies in this area.

Rationale for investigating cancer in older people

Why investigate an older person with possible cancer? If treatment is possible for cure, prolongation of life or palliation of symptoms, then investigations to determine this are appropriate. Likewise, just knowing the prognosis may be important. It may influence the treatment of other diseases, it may help with lifestyle decisions such as placement, and it may help to advise families about their own plans.

Many factors guide cancer management in the elderly and can be divided into those relating to the disease, such as cellular type and staging, and those relating to the patient such as overall fitness, comorbidities, functional status, mental status and family/social support.⁹

A comprehensive geriatric assessment addresses the physiological, functional and psychosocial factors, as discussed by Singhal,²² but one of the vexed questions in geriatric oncology is exactly which scale to use to make an assessment of the fitness of a patient for chemotherapy. Domains that need to be considered are mental and emotional status, activities of daily living (ADL) and instrumental activities of daily living (IADL), home environment, social support, comorbidity, nutrition and polypharmacy. There is merit in a self-administered screening tool that could define a group for more intensive investigation.

Frail elderly patients are a distinct patient population, occurring especially in the over 80s, with other factors such as dependence in ADLs, comorbidities and geriatric syndromes. The treatment algorithm proposed by Balducci states that independent elderly patients with no comorbidities and in whom full treatment would lead to a greater life-expectancy than no treatment, should have full treatment. Patients with comorbidities or dependent in IADLs should have precautions taken with treatment, by using a dose reduction for cycle one to assess toxicity, increasing in cycle two if well tolerated. Frail elderly patients should receive supportive care.

Future Plans

In 2007, a group of interested clinicians from both oncology and geriatrics met to develop a plan for onco-geriatrics; they will hold their first national workshop in Sydney in April this year. Issues for discussion will include models of care for older cancer patients, the need for specialist geriatric assessment of older cancer patients and the utility of the various tools available. As we move nationally towards care in cancer networks, it is important that the rights of older cancer patients are considered and that we have a unique opportunity to build appropriate geriatric assessment into our cancer plans.

Given all the above, it is time to propose the introduction of screening for geriatric patients with cancer. The Royal Adelaide Hospital Cancer Centre, in partnership with the hospital's Department of Geriatric and Rehabilitation Medicine, and as a pilot project for the South Australian Cancer Network, is setting up such a service. At referral to (initially) medical oncology, patients over the age of 70 will be sent a questionnaire to fill in as a screening assessment. This will be reviewed by the geriatric nurse attached to the program and assessed as high, medium or low risk. High and medium risk cases will then be discussed in an onco-geriatrics multidisciplinary meeting, while low risk patients will be treated as usual through the medical oncology clinic. Any low risk patients can be referred subsequently to the geriatric team if required. At the onco-geriatric multi-disciplinary team meeting, patients will be assessed for suitability for normal treatment with increased supports, pre-emptive geriatric management to optimise status prior to normal treatment, or supportive/palliative care only. A database is being constructed so that all cases can be reviewed and outcomes reported. It is expected that this pilot will be refined and then expanded across the health region, and inform practice elsewhere.

In conclusion, we believe that there is a role for onco-geriatrics to assist oncologists to optimise treatment recommendations for patients and to help elderly cancer patients, both to make informed treatment decisions and to cope with the rigours of treatment. Perhaps one of the most important roles for onco-geriatrics will be to ensure that decisions about treatment of elderly cancer patients in the future are made by the patient whenever possible, with expert advice being based on evidence rather than on bias.

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