Cancer Council Australia Essay Competition for Medical Students

“Ageing and Cancer – Individualised care for the Ageing population”

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Introduction

Management of cancer in older adults poses a momentous challenge to health care delivery in Australia. Cancer is a disease primarily afflicting the elderly as demonstrated by estimates that 75% of new cancer diagnoses in males and 65% in females will be in patients aged 60 years and above (Australian Institute of Health and Welfare & Australasian Association of Cancer Registries, 2012). Additionally, the number of Australians aged over 65 years is predicted to increase to comprise 20% of the population by 2040 (Australian Bureau of Statistics, 2013). Necessity now demands a shift to a care model founded upon an interdisciplinary understanding between geriatrics and oncology in order to provide high-quality care to a growing and distinctive population of patients with cancer.

This essay will explore the specialised management of cancer in older adults in Australia with respect to prevention, screening, treatment, survivorship and palliative care. The challenges and future directions of this emerging framework of care will then be discussed, followed by an examination of how university medical students can engage and apply skills within this patient population.

Care of older adults with cancer during different stages of the disease spectrum

The Biology of Cancer and Prevention

The biological intertwining of cancer and aging is accountable for the epidemiological significance of cancer in older patients. Several mechanisms have been proposed to explain the association between cancer and aging. Understanding these links is a vital for developing and implementing preventative approaches to offset the onset of cancer in older adults.

Carcinogenesis is predicated upon aggregated genomic and epigenetic changes over an extended time period (Vineis, Schatzkin & Potter, 2010). The importance of the duration of carcinogenesis is illustrated by a decrease in the median age of lung cancer from approximately 66 to 71 years over the past 25 years (Australian Institute of Health and Welfare, 2011). Experimental and epidemiological studies also suggest that older tissues have an increased susceptibility to
environmental carcinogens (Brenner, Chang-Claude, Seiler, Sturmer & Hoffmeister, 2007; Gravina & Vijg, 2010). Older patients are therefore prime candidates for chemoprevention, a group of emerging and controversial therapies which aim to delay or block late carcinogenetic stages.

Changes in body environment and composition may also serve as fertile grounds for rapid neoplastic development. Increases in insulin resistance, fatty tissue and the prevalence of male-type obesity have all been associated with an increased risk of some cancers, including cancer of the breast, large bowel and prostate (Anisimov et al., 2011; Pais, Silaghi, Silaghi, Rusu & Dumitrascu, 2009). As the first point of contact for healthcare, general practitioners are well positioned to promote measures in order to prevent cancer and maintain optimal health with age. One initiative produced jointly by the Department of Health and Ageing and the Department of Veterans’ Affairs, is a resource called “Choose Health: Be Active” (Brown, Moorhead & Marshall, 2005). This booklet is designed to help older Australians achieve sufficient physical activity for good health, by outlining ways in which they can incorporate 30 minutes of physical activity into their daily lives. By encouraging healthy behaviours early in life, including exercise, nutrition, smoking cessation, sun protection and social interaction, patients are more likely to adopt these measures and thus benefit from gains in long-term health outcomes.

**Screening**

Screening decisions in older patients must be informed by evaluating the benefits and harms of screening in an individualised context, guided by patient preferences. Older adults are at greater risk of screening harms in comparison to their younger counterparts, as a result of co-morbid conditions and functional impairments which contribute towards a shorter life expectancy.

Harms arising from over-diagnosis are a topic currently under close scrutiny, especially in regards to prostate cancer screening. Presently, Australia has not implemented a national prostate cancer screening program, as current evidence suggests that the harms outweigh the benefits of prostate-specific antigen testing for population testing (Cancer Council Australia, 2010). Commonly, patients are diagnosed with low-grade disease that would not have otherwise become clinically apparent, resulting in undue distress and treatment. The impact of treatment is a pertinent consideration for older adults with limited life expectancy, as the initial harms of treatment are likely to bear greater consequence than future benefits of treatment. However, we must recognise that new forms of therapy and an increasing life expectancy may affect our current belief that local
treatment of prostate cancer does not improve overall survival and is associated with substantial complications for patients in this age group.

Considerable benefit can, however, still be gained by performing some forms of screening. Research has shown that women aged between 70 to 79 years achieved a twofold reduction in breast cancer mortality if they underwent a minimum of two mammograms (McPherson, Swenson & Lee, 2002). Currently, the government-funded BreastScreen Australia program encourages asymptomatic women aged between 50-69 years to attend a free mammogram every two years. A new initiative has recently been proposed to expand the target age range to women aged 70-74 years (Biggs & Buckmaster, 2013). This is based upon recommendations from a Dutch study which revealed a reduction in mortality when breast cancer screening was extended to this age group (Otten et al., 2008).

The complexity of screening decisions reaffirms the importance of applying decision-making guidelines on an individual basis. Patient heterogeneity is pronounced in the older adult population, with respect to function, co-morbidities and life expectancy, further complicating potential health implications of treatments (Walter & Covinsky, 2001). Studies also present conflicting results regarding patient preferences, with varying patient opinions on the importance of life expectancy as a factor in screening decision-making (Kistler et al., 2006; Lewis et al., 2006). Older adults are also often disadvantaged by a lower education level, language difficulties, decreased hearing and cognitive decline (Clarfield, 2010). It is therefore questionable whether some older adults are able to truly participate as informed individuals in the complicated process of shared decision making regarding screening.

_Treatment-related Decision Making_

The provision of an individualised management plan is essential for older patients with cancer. This requires an evaluation of the risks and benefits of anti-cancer therapy in the context of the patients’ physical, cognitive and social context. The Comprehensive Geriatric Assessment (CGA) is a multidimensional evaluation tool which examines different age-related domains which are independently predictive of morbidity and mortality in the older cancer patient. These domains include: co-morbidity, functional status, physical performance, cognitive status, nutritional status, psychological status, medication review, social support and living environment. Current guidelines stratify older patients into three categories: “young old” patients aged 65 to 75 years; “old” patients
aged 76 to 85 years and “oldest old” patients aged 85 years and over (Balducci et al., 2005). However, an increasing body of evidence indicates that the “fit elderly” are able to benefit from traditional cancer therapy in a similar manner to younger patients (Monfardini, 2004). Therefore, it is important to recognise that management should not be based solely on age. The CGA attempts to eliminate the effect of the “age bias” by providing clinicians a prognostic insight to the affects of patients’ physiological age as opposed to their chronological age alone (Extermann et al., 2004). This can highlight issues pertinent to cancer management that would otherwise go unrecognised and also guide individual treatment trajectories.

However, the time-consuming and resource-dependent nature of the CGA limits its clinical significance. The Vulnerable Elders Survey-13 is an abbreviated non-cancer specific screening tool which is used to quickly classify older patients as “fit” for treatment or “vulnerable” and requiring further evaluation (Saliba, Orlando, Wenger, Hays & Rebenstein, 2000). An alternative two-step pragmatic screening and assessment approach is being tested at Princess Alexandria Hospital, a large Australian metropolitan cancer centre, in an attempt to produce a sufficiently sensitive and specific assessment tool utilising existing resources (McCarthy et al., 2013). The approach involves a rough preliminary screen to assess the patients’ vulnerability to stressors, followed by a CGA for patients who are considered frail and in need of more in-depth evaluation.

Survivorship and Palliative Care

Discharge from the treatment phase is marked by the abrupt end of a structured and intimate relationship with the oncology team. Notwithstanding of age, the transition from active treatment to “pre-cancer” life is disorienting for most patients (Murray et al., 2007). However, for older patients it is especially vital that continuing care is provided to prolong “active life expectancy”, that is, the period of time the older person survives independently (Katz et al., 1983). In addition to ongoing surveillance, other health issues must also be prioritized in order to achieve holistic care of the individual. Older patients are often plagued with multiple co-morbid conditions, and have been shown to have more co-morbidities and poorer functioning compared to the overall elderly population (Avis & Deimling, 2008). To prevent loss of function and optimise quality of life, it is essential that targeted interventions are used to manage fatigue, deconditioning and cognitive decline (Balducci & Fossa, 2013).
The enduring relationship between older patients and their general practitioners is a valuable resource that should be utilised during this post-treatment phase. General practitioners in partnership with specialists create a sustainable model of care for the management of co-morbid conditions, promotion of a healthy lifestyle and coordination of allied health support in older patients. Currently, there are no specific national guidelines for survivorship care in Australia (Jefford et al., 2013). However, the Victorian Cancer Survivorship Program has identified strategic priorities and is in the process of developing policy and models of care.

Palliative care can also be integrated into the patients’ overall care plan, anywhere in their illness trajectory from diagnosis to end-of-life care. A multidisciplinary approach can help to achieve adequate symptom management and quality of life, facilitate psychosocial adjustment to cancer and provide supportive care for patients and their caregivers (Morrison & Meier, 2004). It is also advised that patients undergo Advance Care Planning, which follows a similar process in all Australian states (National Advance Care Directives Working Group, 2011). Older patients, in collaboration with close relatives and medical advisors are able to establish realistic treatment goals based on likely outcomes, and therefore be prepared for health needs that may arise in the future.

Challenges and Future Directions of Cancer Care for Older Adults

Interdisciplinary care and research

Despite the complex healthcare needs of the older patient with cancer, there is currently little communication or cooperation between the fields of oncology and geriatrics. The current lack of national guidelines and frameworks has resulted in patients receiving care that is non-standardized. Interdisciplinary clinical trials are key stepping stones in the development of a strategic approach to the care of older adults with cancer.

The paucity of evidence in the area of geriatric oncology is primarily owing to the design of many current trials. There is an under-representation of older patients in clinical trials, with most trials only including patients under 70 years of age or those considered to be the “fit elderly”. This leaves large gaps in our current understanding of the effectiveness of therapy in this patient population, which is a critical factor in the evaluation of optimal treatment.
Progress in this area has been made with the initiation of The Clinical Oncological Society of Australia’s Geriatric Oncology Special Interest Group (Steer et al., 2009). This heralds a new collaboration between oncology and geriatric disciplines in Australia and a commitment towards meeting shared goals. Amongst others, these include defining a valid national screening tool, establishing current approaches to care for different categories of older patients and developing a consensus set of recommendations on assessment of suitability for treatment.

**Health Literacy**

Health literacy is a commonly discounted, yet significant determinant of health outcomes in older cancer patients. Approximately 80% of older Australians are reported to have poor health literacy (Australian Bureau of Statistics, 2008). This has an impact upon all aspects of the patients’ journey, as they are less likely to participate in disease prevention programs, be an informed participant during treatment and follow prescription directions. Addressing low health literacy is crucial in older patients with cancer, as the complexity of management options demands their greater involvement in decision-making processes (Sparks & Nussbaum, 2008).

Health literacy in older patients is often hindered by memory decline, sensory deficits as well as intergenerational and cultural barriers (Sparks & Nussbaum, 2008). Evaluating such factors during geriatric patient consultations can prevent these common age-related communication barriers from being overlooked. Appropriate communication skills can then be utilised to promote patient autonomy and set the foundations for a shared-decision model. This involves adopting an active awareness of the use of technical terms, general language complexity and structural characteristics of dialogue in order to enhance overall clarity in communication (Roter, Erby, Larson & Ellington, 2007). Consideration must also be given to the role of caregivers, who accompany 20% to 50% of geriatric patients during routine medical visits (Clayman, Roter, Wissow & Bandeen-Roche, 2005). These members of the patients’ “social support network” are often highly driven to offer interpretations, explanations and encouragement to patients regarding their diagnosis and treatment (Pecchioni & Sparks, 2007). By utilising these techniques and resources, clinicians can assist their patients in regaining a central role in their care and facilitate meaningful discussions about their disease and prognosis.
Areas of Engagement for University Medical Students

Australia’s ageing population and emerging interdisciplinary collaborations foster a multitude of learning opportunities for Australian university medical students. Despite potential future careers in diverging specialities, an ageing population demands all clinicians to have a firm grasp of geriatric medicine. Clinical skills, including performing a geriatric assessment and tailored communication skills, should be developed and practiced with confidence. This impressionable phase is also a prime opportunity to encourage engagement in the fields of oncology and geriatrics. A new generation of committed clinicians who are open-minded to the prospects of an interdisciplinary model of care will surely foster its ongoing development.

Conclusion

Whilst an ageing population places an overwhelming strain upon existing cancer care models, considerable progress has been made to meet new challenges. By implementing a patient-centred approach, all aspects of the disease spectrum can be addressed in a manner appropriate for the older cancer patient.

A care model that encompasses paradigms from geriatric and oncology disciplines still requires further development. Ongoing commitment to the creation of standardized tools and evidence-based recommendations are crucial to ensure that clinicians are well equipped to provide holistic and individualised care to older adults with cancer.
References


