



## Editorial

## The Evolving Practice of Palliative Radiotherapy

A. Rembielak<sup>\*†1</sup>, K. Dennis<sup>‡1</sup><sup>\*</sup> The Christie NHS Foundation Trust, Wilmslow Road, Manchester, M20 4BX, UK<sup>†</sup> The University of Manchester, Oxford Road, Manchester, M13 9PL, UK<sup>‡</sup> Division of Radiation Oncology, The Ottawa Hospital and the University of Ottawa, Ottawa, Ontario, Canada

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We would never have thought that our next special issue of *Clinical Oncology* would be delivered during such unprecedented times. It feels like the world has been frozen under the SARS-CoV-2 threat, we have all felt its disruptive impact on the delivery of cancer services. Oncology health care professionals across the globe have shown their commitment to patients by adapting to our new reality. Under duress they have maintained cancer services in their communities and worked to provide patients with optimal treatments and outcomes. With this in mind, we wish to recognise and applaud the team behind this special issue. As the pandemic unfolded and disrupted your professional and personal lives, you made time to contribute. We cannot find words to adequately express our gratitude to all involved.

Although the inspiration for this special issue was a well-received palliative radiotherapy study day at the Royal College of Radiologists in 2019 [1], it conveniently arrives at a time when radiotherapy departments are rigorously auditing and aligning their operations to available evidence and best practices. This issue provides pragmatic syntheses of a wide range of the multidisciplinary literature that should serve as useful refreshers and clinical guides. More conceptually, it also highlights how the meaning, scope and practice of palliative radiotherapy are evolving, and challenges the reader to consider it as a distinct subspecialty in oncology.

The World Health Organization (WHO) defines palliative care as ‘an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual’ [2]. Palliative

radiotherapy, when administered within a holistic envelope of care, aligns well with this definition, making it an integral component of comprehensive cancer care. For decades palliative radiotherapy has effectively and efficiently relieved symptoms from advanced and metastatic cancers, and there is now an increasing demand for treatment due to epidemiological trends, improving patient outcomes and shifting treatment paradigms.

Large demographic cohorts are entering their elderly years in many countries, and the burden of cancer is rising globally at an alarming rate. According to the WHO, the number of global cancer deaths is projected to increase by 45% between 2008 and 2030 [3]. More patients will require palliative and symptomatic support at various points along their treatment pathways.

Advances in our understanding of cancer biology, novel targeted systemic agents, new technologies and improvements in supportive care have also contributed to some dramatic shifts in oncological outcomes. More patients with certain types of cancer are being cured or are living longer with metastatic disease. This is the focus of a Macmillan and UK Government joint project entitled ‘Improving Cancer Care and Support for People Living with and Beyond Cancer’ [4]. It aims to improve the survivorship element of the cancer care pathway and support patients who are cured or live with cancer for many years. Optimising outcomes for patients with metastatic disease and favourable prognoses requires us to consider how a radiation oncologist can contribute to a broader plan of enhanced long-term supportive care, whether radiotherapy is administered or not. When it is, treatment goals beyond symptom relief, such as local control, often need to be considered, as do the consequences of treatment with regards to acute and cumulative toxicities and re-irradiation.

Indeed, balancing the potential benefits and toxicities from treatment has come into sharp focus with the management of patients with oligometastatic disease. For some, owing to new systemic agents and the use of advanced

Author for correspondence: A. Rembielak, The Christie NHS foundation Trust, Wilmslow Road, Manchester M20 4BX, UK.

E-mail address: [agata.rembielak@christie.nhs.uk](mailto:agata.rembielak@christie.nhs.uk) (A. Rembielak).

<sup>1</sup> Both authors contributed equally to this work.

forms of radiotherapy, such as stereotactic ablative radiotherapy (SABR), the traditional division of treatment goals into curative and palliative has been blurred. The use of SABR in the management of metastatic disease is quickly proliferating. Patients no longer just receive treatment reactively for 'pure palliation' and symptom relief, but proactively in the hope of preventing future symptoms from, or progression of, oligometastatic disease, and reactively for local control in the setting of often asymptomatic oligoprogressive disease. These treatments require careful consideration given their complexity, cost and time commitments.

A treatment approach in palliative radiotherapy should be evidence-based and personalised. It should be adapted to the biological behaviour and molecularly derived characteristics of the disease and be mindful of the overall health status and functional and mental capabilities of the patient. It should also complement the overall plan of care being implemented by a multidisciplinary team, and be guided by the preferences, beliefs and values of the patient and their family. Our hope is that the following articles within this special issue will aid practitioners as they care for their own patients with advanced and metastatic cancers.

Because patients are living longer, recurrences and secondary malignancies in previously irradiated fields are becoming an increasingly common challenge. In their article, Armstrong and Hoskin [5] unfold the complex clinical decision-making processes behind re-irradiation. They provide detailed evaluations of radiobiological and clinical factors that need to be considered in this setting, and an easy-to-reference tabularised site-specific summary of the available supporting literature.

Many patients face barriers to accessing palliative radiotherapy. Dennis and colleagues [6] provide an overview of how rapid access palliative radiotherapy programmes have developed internationally to overcome many of these barriers. They explain how these programmes can meet the specific needs of patients from vulnerable populations, and detail how programmes have improved evidence-based practice and promoted collaboration, education and role advancement within their multidisciplinary teams.

Concerning the emerging populations of patients deemed to have oligometastatic disease, Chen and colleagues [7] discuss the role of stereotactic radiosurgery (SRS) and stereotactic body radiotherapy (SBRT) in their management. They summarise the clinical trials that established SRS as a standard treatment option for patients with intracranial disease, and the promising ongoing studies that aim to determine the role of extracranial SBRT. They put into context how SRS and SBRT can offer prolonged local control for oligometastatic disease, and for some patients the potential for cure.

Bone metastases cause considerable morbidity and worsen function and quality of life. Ideal management involves the efforts of a diverse team and multimodality treatment. Challapalli and a multidisciplinary group of colleagues [8] discuss the complementary roles of

conventional radiotherapy, surgery, bone-targeting radionuclides and bone-modifying agents in achieving palliation. They elaborate on current controversies and discuss future directions in management.

Metastatic spinal cord compression is a devastating complication of advanced cancers. Prompt co-ordinated assessment and treatment are necessary given how rapidly neurological functions can deteriorate. Loblaw and colleagues [9] provide an overview of current surgical and radiotherapeutic recommendations and highlight the valuable role a specialised interdisciplinary team can plan in managing this oncological emergency.

Fitzpatrick and colleagues [10] expand this theme of interdisciplinary care by highlighting international examples of advanced practice roles among radiographers/radiation therapists and nurses. These initiatives have led to measurable improvements in the co-ordination, efficiency and quality of palliative radiotherapy.

The increased use of palliative radiotherapy, including SRS and SABR/SBRT, among patients receiving new systemic agents has led to enthusiasm about potential synergistic effects, but also concern about potential interactions and toxicities. Fife and Bang [11] provide an overview of the mechanisms underlying common new systemic agents, explanations of how they might modulate the effects of radiotherapy and a comprehensive summary of available literature describing their combined use.

O'Donovan and Morris [12] discuss the use of palliative radiotherapy among elderly and frail patients. They explain how these patients more commonly present with advanced disease, are less likely to undergo radical treatment and are under-represented in clinical trials. They emphasise the importance of a holistic approach in their management and highlight the value of comprehensive geriatric screening and assessment tools when creating management plans, including those for palliative radiotherapy.

Palliative radiotherapy has traditionally been administered with simple and relatively inexpensive techniques, but the use of novel and advanced technologies has become more common. Patients are committing more time to treatment preparation and delivery, and radiotherapy departments are allocating more resources to support newer techniques in this space. In their article on health economic and health service issues in palliative radiotherapy, Barton and colleagues [13] discuss the need for appropriate case selection in order to justify the increased costs of extended fractionation schedules and complex radiotherapy techniques.

Finally, Berman and colleagues [14] remind us that supportive care is an indispensable component of modern cancer care. They highlight how anti-cancer therapies, including palliative radiotherapy, can complement overall supportive care strategies, and detail the arguments being made nationally and internationally to prioritise the integration of supportive care into oncology practices.

We hope this special issue of *Clinical Oncology* serves as a valuable reference for daily clinical practice, motivates readers to develop new interdisciplinary collaborations and inspires them to design new clinical studies in palliative settings.

## Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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