

Radiation Therapy for Metastatic Lung Cancer: Prolonging Survival and Improving Quality of Life

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Introduction

Lung cancer is a formidable adversary, often diagnosed at an advanced stage when the disease has already spread to other parts of the body, a condition known as metastatic lung cancer. Metastatic lung cancer is a grim diagnosis, but advancements in medical science have offered new hope in the form of radiation therapy. This powerful treatment option can significantly prolong survival and enhance the quality of life for patients with metastatic lung cancer. Lung cancer, primarily associated with smoking, remains a leading cause of cancer-related deaths worldwide. When lung cancer spreads beyond the lungs to other parts of the body, such as the bones, brain, or liver, it is classified as metastatic lung cancer, or stage IV lung cancer. The prognosis for metastatic lung cancer is generally poor, with traditional treatments often focused on palliative care to manage symptoms and improve the patient's quality of life.

Radiation therapy, also known as radiotherapy, plays a vital role in the treatment of metastatic lung cancer. This powerful medical intervention uses high-energy beams of radiation to target and destroy cancer cells, while minimizing harm to surrounding healthy tissue. External Beam Radiation Therapy (EBRT) is the most common form of radiation therapy for metastatic lung cancer. It involves the use of an external machine that directs beams of radiation precisely at the tumor, typically in daily sessions over a course of several weeks. The patient does not feel the radiation and each session lasts only a few minutes. Stereotactic Body Radiation Therapy (SBRT) also known as stereotactic ablative radiotherapy (SABR), is a more focused and intensive form of radiation therapy. It is often used for small, localized tumors and involves delivering a few high-dose radiation treatments over a shorter period, typically one to five sessions [1].

Description

While radiation therapy for metastatic lung cancer is not typically curative, it can significantly extend survival and alleviate symptoms. The treatment is especially effective when targeting tumors in specific locations, such as the brain, spine, or bones, where it can reduce the tumor's size and slow its growth. Radiation therapy can shrink tumors, relieving pressure on surrounding tissues and organs. In the case of brain metastases, it can reduce the risk of neurological symptoms. Metastatic lung cancer often leads to symptoms such as pain, difficulty breathing and neurological deficits. Radiation therapy can help manage these symptoms, improving the patient's quality of life. In some cases, radiation therapy can help prevent complications from metastatic lesions, such as fractures in bone metastases [2].

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Beyond its potential to extend survival, radiation therapy for metastatic lung cancer also contributes to improving the quality of life for patients. Radiation therapy can significantly reduce pain caused by metastatic tumors in the bones or soft tissues, allowing patients to engage in daily activities with less discomfort. By targeting tumors in the spine or extremities, radiation therapy can improve mobility and independence, helping patients maintain their daily routines. When metastases occur in the brain, radiation therapy can help preserve cognitive function, ensuring that patients can continue to enjoy a good quality of life. Radiation therapy can alleviate symptoms of advanced lung cancer, such as shortness of breath, by shrinking tumors in or around the lungs [3]. Radiation therapy is often part of a multidisciplinary approach to managing metastatic lung cancer. Patients with this advanced stage of the disease may also benefit from chemotherapy, immunotherapy, targeted therapy and supportive care, including pain management and palliative care. Moreover, advances in radiation therapy techniques, such as Intensity-Modulated Radiation Therapy (IMRT) and proton therapy, offer more precise and efficient treatments while minimizing side effects. These advancements enhance the overall experience of patients undergoing radiation therapy for metastatic lung cancer.

While metastatic lung cancer remains a significant challenge, radiation therapy has emerged as a powerful tool to prolong survival and improve the quality of life for patients. When integrated into a comprehensive treatment plan, radiation therapy can offer hope and relief, making a positive impact on the lives of those facing this challenging diagnosis. As medical science continues to evolve, we can anticipate even more promising developments in the fight against metastatic lung cancer, offering new avenues for patients and their families to explore on their journey toward improved outcomes and an enhanced quality of life. Metastatic lung cancer often comes with debilitating symptoms and complications. Palliative care specialists can work alongside radiation oncologists to provide pain management, symptom relief and emotional support, ensuring that patients maintain their comfort and dignity throughout their journey [4].

Emerging therapies, such as targeted treatments and immunotherapies, have shown promise in managing metastatic lung cancer. When combined with radiation therapy, they can offer a multi-pronged approach to combat the disease and extend survival. Patients with metastatic lung cancer should explore the possibility of participating in clinical trials. These trials can offer access to cutting-edge treatments that may lead to breakthroughs in cancer care. As patients live longer with metastatic lung cancer, survivorship care plans become increasingly important. These plans can address long-term side effects, emotional and psychological support and strategies for maintaining a healthy lifestyle. Lung cancer is a disease that affects not only the patient but also their loved ones. Support and resources for family members and caregivers can make a significant difference in the overall quality of life during treatment [5].

Conclusion

Advancements in genomic profiling allow for personalized treatment plans based on a patient's unique genetic makeup. These tailored treatments can improve outcomes and reduce side effects. Coping with a metastatic lung cancer diagnosis is an emotional challenge. Psychosocial support, including counseling and support groups, can help patients and their families navigate the emotional rollercoaster of living with advanced cancer. Radiation therapy

is a pivotal component of the treatment arsenal against metastatic lung cancer, offering both survival benefits and improvements in the quality of life. Advances in radiation techniques and their integration into comprehensive, patient-centered care plans give hope to those affected by this challenging condition. While the road ahead may be difficult, the combination of innovative treatments, comprehensive care and a strong support system can make a significant difference in the lives of patients and their families. With ongoing research and an unwavering commitment to patient care, the outlook for individuals diagnosed with metastatic lung cancer continues to improve, providing hope for a brighter future in the fight against this formidable disease.

Acknowledgement

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Conflict of Interest

There are no conflicts of interest by author.

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