



Editorial

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Palliative Care and Tumor Immunology

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Editorial

The Sapporo Conference for Palliative and Supportive Care in Cancer (SCPSC) is an international conference held every three years. The 5th SCPSC is scheduled for July 2026. This conference provides a forum where global experts in cancer palliative care engage in passionate discussions on the latest topics in a non-competitive and collegial atmosphere. It is often affectionately called the "Olympics of Cancer Palliative Care [1]".

One of the symposia at the 5th SCPSC, entitled "The Era of Personalized Palliative and Supportive Care for Patients with Cancer: Progress and Innovation, [2]" will also include discussions on immunotherapy.

Given the recent advances in cancer immunotherapy, it is important to approach this topic not only from the standpoint of clinical oncology, but also from the perspective of cancer palliative care. The philosophy of palliative care is considered to be aligned with that of the immune system. Palliative care addresses fundamental human experiences such as birth, aging, illness, and death—often referred to as the "four sufferings" in Buddhist philosophy-and strives to safeguard human dignity. The immune system functions as a biological defense mechanism, eliminating non-self elements. However, cancer cells hijack immunosuppressive mechanisms to proliferate, evade immune surveillance, and assimilate into the body as if they were part of the self. Even when cancer immunotherapy is effective, the immune system remains involved throughout the entire process—birth, aging, illness, and death—and thus, continues to guard human dignity.

With this philosophical parallel in mind, it has already been noted that palliative care has entered a new era, with increasing emphasis on biology [3]. Within oncology, which supports this shift, advances in tumor immunology have been particularly noteworthy. Cancer immunotherapy has achieved long-term survival for some patients with stage IV cancer, raising hopes for complete remission or even cure [4]. A turning point came in 2014 with the introduction of the first immune checkpoint inhibitor, nivolumab, followed by Chimeric Antigen Receptor T-cell (CAR-T) therapy, specifically tisagenlecleucel, in 2017, and T Cell Receptor-engineered T-cell (TCR-T) therapy, specifically afamitresgene autoleucel, in 2024. Despite the limitations in the efficacy of these therapies, the progress made in cancer immunotherapy during this period has been truly remarkable. Tumor immunology has rapidly evolved from a field focused on basic immune response research to one driving broad clinical applications. Beyond the therapies mentioned, research into stimulatory factors and inhibitors within the seven steps of the cancer-immunity

cycle [5] has yielded tangible clinical outcomes. Additionally, clinical research is reaching a critical phase, utilizing cutting-edge technologies such as multi-omics analysis, single-cell immune profiling, genome editing, immunometabolic profiling, and gut microbiome analysis. These efforts are being driven by reverse translational research aimed at identifying biomarkers to predict therapeutic efficacy and guide treatment selection, as well as at developing combination immunotherapies and novel cancer control technologies.

Recently, the number of studies on cancer immunotherapy in the field of palliative care has been increasing [6-10]. Most of these are observational studies focusing on the use of immune checkpoint inhibitors at the end of life. For example, a recent cohort study from the United States examined patients with stage IV malignant melanoma, non-small cell lung cancer, and renal cell carcinoma [11]. This study reported that more physicians are using immune checkpoint inhibitors for patients with metastatic cancer at the end of life, with initiation of treatment increasing as the disease progresses. This trend was notably more prevalent in nonacademic institutions and low-volume centers compared with academic institutions and highvolume centers. Such cohort studies provide valuable insights into the future application of cancer immunotherapy for patients with advanced

The clinical use of immune checkpoint inhibitors

in palliative care holds promise but warrants caution [12]. Despite these concerns, as cancer immunotherapy increasingly offers the possibility of cure, it is crucial to consider how traditional concepts of palliative care intersect with cancer immunotherapy. Looking forward, cancer palliative care must expand to cover new research areas, including studies on the mechanisms of immune-related adverse events development based on such research. Work in fields such as psycho-oncology [13] and clinical ethics—including evaluations costeffectiveness for cancer immunotherapy—has only just begun. A deep understanding of tumor immunology is essential for the appropriate integration of cancer immunotherapy into palliative care.

Palliative care focuses on the cancer patient as the host, not just the cancer itself, while immunotherapy targets the patient's immune system rather than the cancer. This parallel is fascinating and echoes the core concept of "tumor-host interactions [14-16]". Considering this framework offers important insights for personalized cancer care, especially as genomics innovations are incorporated into tumor immunology.

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