Abstract

Quality of Life and Treatment Experience of Experimental CAR-T Cell Therapy in Oncology Adolescents: A Scoping Review

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Introduction. Oncology in the Adolescent and Young Adult (AYA) population represents a uniquely complex area of care. While the introduction of experimental treatments, such as Chimeric Antigen Receptor T-cell (CAR-T) therapy, offers significant opportunities for recovery, their inherent complexity and relative uncertainty may negatively impact Quality of Life (QoL) and the patient's subjective experience. It is, therefore, essential to understand the perspective of adolescents—their feelings and what they seek to communicate regarding the life-altering changes they face.

Methods. A literature review was conducted to analyze the scientific evidence regarding quality of life and the treatment experience of CAR-T cell therapy in adolescent oncology patients. The search was performed using the PubMed database, employing a structured combination of keywords to develop the search string. Studies published in English and Italian over the last 10 years were included.

Results. The analysis of the eight included articles revealed a scarcity of specific scientific evidence at the intersection of adolescent oncology and experimental therapies, highlighting a significant gap in the literature. QoL appears to be significantly compromised, particularly following treatments such as CAR-T cell therapy, due to both acute and late side effects. Despite an initial decline in QoL related to CAR-T toxicity, many adolescents demonstrate recovery trajectories and improvement over time, with progressive physical, psychological, and relational benefits, also supported by the increasing adaptation of both patients and their caregivers. Furthermore, two studies emphasized the crucial impact of caregiver well-being, whose emotional state and support directly reflect on the quality of life and every aspect of the adolescent patient's experience.

Discussion. In summary, this review underscores that current literature on the QoL of oncology adolescents undergoing experimental therapies is severely limited, necessitating an urgent research focus. It is essential that experimental protocols not only manage physical adverse effects but also integrate robust psychosocial support, extended to caregivers, whose well-being is a crucial determinant of the adolescent patient's quality of life.

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