

# EDITORIAL

Dear Readers,

In my previous editorial, I had mentioned about the revolutionary CAR T cell therapy.

CAR T cell therapy involves genetically modifying a patient's own immune cells to recognize and attack cancer cells of certain blood cancers like leukemia and lymphoma.

However, on its implementation, there have been potential side effects which can range from mild to severe and which need to be carefully considered. I wanted to appraise you all about some of these.

Patients undergoing CAR T cell therapy often experience fatigue, nausea, and other chemotherapy-like side effects. These symptoms are usually temporary but can affect the patient's quality of life during and shortly after treatment.

Cytokine Release Syndrome (CRS) is one of the most common and potentially serious side effects of CAR T cell therapy. When the engineered T cells are activated, they release cytokines into the bloodstream leading to symptoms like mild flu (fever, headache, muscle pain), and serious ones like low blood pressure, difficulty breathing, and organ dysfunction. Patients need intensive monitoring and sometimes treatment with immunosuppressive drugs. Release of cytokines in the brain can lead to neurotoxicity causing confusion, seizures, and other neurological symptoms. These need to be picked up early to protect the patient from serious neurological damage.

Since CAR T cells target specific proteins on cancerous B cells, they may attack normal B cells leading to B-cell aplasia, where the patient becomes deficient in normal B cells. In such a scenario, there is risk of infections requiring continuous monitoring and therapy.

CAR T cell therapy being relatively recent, its long-term effects are still being studied and there are concerns about potential late effects, including the development of secondary cancers. The genetic modifications made to T cells could theoretically lead to unintended consequences over time.

Though CAR T cell therapy represents a promising advancement in cancer treatment, it is not without risks. Even if side effects are severe, not all patients experience them, and the benefits of CAR T cell therapy in treating certain cancers can be life-changing. Careful patient selection, close monitoring during and even after treatment, and prompt management of side effects are crucial to maximizing the benefits of this innovative therapy while minimizing its potential drawbacks. Ongoing research aims to refine the therapy to reduce side effects while maintaining efficacy.



## **E. Anuradha Sunil**

Editor-in-Chief

Oral and Maxillofacial Pathology Journal

Professor

Department of Oral Pathology and Microbiology

Royal Dental College

Chalissery, Kerala, India

