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Immunotherapy Enhances the Immune System's Ability to Recognize, Target, and Eliminate Cancer Cells

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INTRODUCTION

Cancer immunotherapies come in many forms, including targeted antibodies, cancer vaccines, adoptive cell transfer, tumor-infecting viruses, checkpoint inhibitors, cytokines, and adjuvants. Immunotherapy is a form of biotherapy (also called biological therapy or Biological Response Modifier (BRM) therapy) because it uses materials from living organisms to fight disease. Cancer immunotherapy takes advantage of the fact that cancer cells frequently include tumour antigens, chemicals that can be recognised by immune system antibody proteins and bind to them. Through the immune system, active immunotherapy precisely targets tumour cells. As an example, consider therapeutic cancer vaccines, which work to strengthen the immune system to combat cancer. Many immunotherapeutic treatments used to prevent, treat, or cure various types of cancer are used in combination with surgery, chemotherapy, radiation, or targeted therapies to improve their effectiveness [1]. Immunotherapy is approved in the United States and elsewhere to treat various cancers and is prescribed to patients by oncologists. These approvals are the result of years of research and trials aimed at demonstrating the efficacy of these treatments.

DESCRIPTION

Immunotherapy is also available through clinical trials. This is a carefully controlled and monitored study in patient volunteers. The clinical success of cancer immunotherapy varies greatly among various cancer types; for instance, some subtypes of gastric cancer respond favourably to the treatment whereas immunotherapy is ineffective for other subtypes Immunotherapy does not always work for all patients, and certain types of immunotherapy are associated with potentially serious but manageable side effects. Some immunotherapy treatments use genetic engineering to enhance the ability of immune cells to fight cancer and are sometimes called gene therapy. We are developing methods to determine which patients are more likely to respond to immunotherapy and which are not. Scientists haven't mastered all of the cancer-fighting capabilities of the immune system yet, but immunotherapy is already helping prolong and save the lives of many cancer patients. Immunotherapy has the potential to be more precise, personalized, effective, and have fewer side effects than current cancer treatments.

Many cancer patients and caregivers may be familiar with conventional treatments such as chemotherapy and radiation [2,3]. A form of cancer treatment that harnesses the power of the body's immune system to prevent, control, or eradicate cancer, several key features of immunotherapy allow for a more specific response to cancer increase. Immunotherapy enhances the immune system's ability to recognize, attack, and eliminate cancer cells anywhere in the body, potentially becoming a universal response to cancer. Immunotherapy is approved in the United States and elsewhere as a first-line treatment for several types of cancer, and may be an effective treatment for patients with certain types of cancer who are resistant to previous treatments. There is a nature Immunotherapy given alone or in combination with other cancer treatments [4].

CONCLUSION

Adoptive cell therapy takes the patient's own immune cells, enhances or otherwise modifies them, and then reintroduces them into the patient so that they can seek out and eliminate cancer cells. CAR-T cell therapy modifies her cancer-fighting T cells and equips them with specialized cancer-targeting receptors known as

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CARs (Chimeric Antigen Receptors) that enable greater anti-cancer activity. Natural Killer Cells (NK) and Tumor Infiltrating Lymphocytes (TIL) can also be boosted and re-infused into the patient. Oncolytic virus therapy often, but not always, uses viruses that have been modified to infect and self-destruct tumor cells. This can attract the attention of immune cells to eliminate the primary tumor and possibly other tumors throughout the body.

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CONFLICT OF INTEREST

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