

Analysis of Immunotherapy in ovarian cancer



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Introduction

Ovarian Cancer is a lethal gynecological malignancy. For cancer, there are many treatments like radiation, surgery, chemotherapy, and immunotherapy. All these treatments can be used alone or in combination between them, but it needs to be understood how treatments are carried on.

Objectives

The aim of this work is to make a review about immunotherapy methods used in ovarian cancers.

Material and Methods

A wide PubMed search was performed using the keywords: Immunotherapy and Ovarian cancer. 406 articles were found. A systematic review during the last year was made.

Results

The use of anti-PD-L1/PD-1 therapies could be effective. Nevertheless, CD8+ cells and PD-L1 could not be the only immune targets in OC. Tumors-associated macrophages, cancer-associated fibroblasts or regulatory T lymphocytes may be crucial in mediating immune tolerance and resistance to PD-L1/PD-1 inhibition. DNA damage repair (DDR) can maintain tumors, but its deficiency promotes local antigen release, resulting in systemic antitumor immune responses. In ovarian cancer, the BRCA1 is involved. PARP inhibitors lead to failure OF DDR. It is implied that the loss of BRCA1 and p53 and overexpression of c-Myc in ovarian cancer in mice, showed that PARP inhibitors induced the activation of the STING pathway, then, chemokines increase and induce the activation of cytotoxic CD8+T cells. JAK/STAT3 pathway is an important signaling mechanism for the growth and progression of ovarian cancer. The protein OSMR is highly expressed in cancer cells. In a study, a monoclonal antibody against OSMR to stop the progression of ovarian cancer. Binding of OSM to OSMR caused OSMR-IL6ST dimerization, which is important for STAT3 activation. Antibody clones B14 and B21 promoted the degradation of OSMR and inhibited cancer progress.

Conclusions

There are many Immunotherapy methods in ovarian cancer. Even the immune cells themselves can be part of the immunotherapy. But also at molecular level, the immunotherapy can be applied, like maintaining damage in DNA or inhibiting certain pathways. Nevertheless, there is still needed to understand the mechanism of immunotherapy.

