

Endocrine side effects of immunotherapeutic drugs

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Conflict of interest: none

BACKGROUND. Immunotherapy is an innovative approach to treatment that is changing the paradigm in oncology and is achieving significant results in the fight against malignant tumors including leukemia, melanoma, lung cancer, kidney cancer and many others. This treatment uses the power of the body’s immune system to fight cancer cells. Immunotherapy can lead to long-term remission or even complete disappearance of tumors in patients with certain types of cancer. The success of therapy depends on many factors, including the type of cancer and individual patient characteristics.

As with any treatment, patients with immunotherapy may experience side effects. As a result of treatment with pembrolizumab (and other immunotherapeutic drugs), patients may develop endocrine disorders. The most common endocrine side effects include thyroiditis (which can lead to hyper- or hypothyroidism), inflammation of the parathyroid glands, hypophysitis, and diabetes mellitus.

OBJECTIVE. Based on the literature data, to investigate the possible side effects of immunotherapeutic drugs on the endocrine system.

MATERIALS AND METHODS. Object: endocrine complications due to immunotherapy. Research method: review of literary sources.

RESULTS. Among the manifestations of the endocrine system, the most common are thyroid dysfunction and diabetes mellitus. It is important to monitor the levels of thyroid-stimulating hormone (TSH), free T₄, blood glucose and glycated hemoglobin for timely detection of endocrine pathology, prevention of unwanted complications and improvement of patients' quality of life.

CONCLUSIONS. Immunotherapy is vital for cancer patients. Given the possible development of various side effects, including those from the endocrine system, patients should monitor the main indicators of the thyroid gland (TSH, free T₄) and carbohydrate metabolism (blood glucose, glycated hemoglobin) both before starting immunotherapy and during treatment. Patients with pre-existing endocrine disorders require more careful monitoring. It is possible that such patients, in the process of immunotherapy, may require correction of hypoglycemic drugs: speaking of diabetes mellitus, a possible option may be a dose correction of tableted antidiabetic drugs, a change in the therapy regimen or insulin therapy; in diseases of the thyroid gland, the doctor may suggest dose adjustment of thyroid drugs, ultrasound diagnostics and/or fine-needle aspiration biopsy of thyroid nodules.

KEY WORDS: oncology, immunotherapy, pembrolizumab, endocrine system, hypothyroidism, hyperthyroidism, diabetes mellitus.
