

Current approaches to the treatment of oncological diseases

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Introduction

Oncological diseases are one of the main reasons of morbidity and death in the world. Every year cancer is diagnosed in 14 million persons. Every year the number of victims increases by 1-2% all over the world. It is considered that in the following 20 years the number of patients will increase nearly by 70%. Annually cancer kills nearly 8.8 million patients. Scientists consider that soon oncology will be the leading pathology in the world.

Aim of the study

Objective is to study the latest methods of treating cancer and determine their advantages in comparison with the conservative methods.

Materials and methods

Latest articles dealing with modern technologies of treating oncological diseases were studied. Information published on the site of National Statistical Committee of the Republic of Belarus was analyzed.

Results

Nowadays there is wide range of achievements in treating cancer. ‘Cyber Knife’: the essence of the method is exposing the affected part of the organism to the high-frequency radiation destructive to cancer cells. Brachytherapy is a kind of radiological therapy, when the source of radiation is introduced into the affected organ. Photodynamic therapy is one of the latest methods of treating cancer that uses light-sensitive substances. The advantages of photodynamic therapy are the preservation of the involved organ, possibility to attack only the affected areas, treatment of difficult to access organs. Ultrasonic ablation is a method of treatment, consisting of local heating up the tissues till 50-90°C. The use of this method is not limited by the size and histological structure of the tumor. The advantages include the safety of treatment, noninvasiveness and rapid rehabilitation. ‘Leikeran’ is an antitumor cytostatic medicine where the acting substance is chlorambucil. ‘Nivolumab’ is a medicine, which blocks PD-1 receptors. The effect is based on suppressing cell immunity. Small particles of active substance invade the cancer cell, combine with PD-1 receptors, thus decreasing and blocking the activity of lymphocytes. Target therapy is another way of treating cancer. It is an individually designed course of therapy based on special medicines that affect certain types of cancer. These medicines block centers of cancer cells growing and destroy them.

Conclusions

Every year new methods of treating oncological diseases are being developed. Nowadays a significant survival rate has been noted. It is achieved due to the improvement of diagnostic methods and ever-growing quality of specialty care.