Profession of increased radiation risk may accompanied by the development of various diseases, including cancer, which necessitates the improvement of radiation protection equipment.

People undergoing treatment with radiotherapy and a number of other treatments using radio emission are also in the zone of increased radiation risk.

Thus, the study of genes that play a key role in the radiosensitivity of the organism can help establish or adjust individual doses for treatment, norms for workers whose activities related to contact with ionizing radiation, etc. All this in general can help to maximize human safety and reduce the risk of adverse effects in contact with radiation.

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DETERMINATION OF THE MOLECULAR-BIOLOGICAL PROFILE IN BREAST CANCER

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In the course of molecular biological studies of 150 patients with breast cancer it was established that luminal type A was detected in 81 patients, luminal B type in 24, Erb-B2 overexpressing type 33, with predominant infiltrative protocol cancer with moderate degree of differentiation (G2). Basal type was found in 12 patients with breast cancer, with this type of diagnosed infiltrative protocol cancer with a low degree of differentiation (G3).

Keywords: breast cancer, molecular subtypes, immunohistochemical method, tissue antigens.

The steady growth of malignant diseases can be associated with the worsening of ecological situation in the Republic of Belarus. Breast cancer (BC) is the most widespread oncological disease in women. With this pathology, around one million new cases of the disease are diagnosed annually in the world [1].

In modern clinical oncology, before beginning treatment of breast cancer in order to determine not only the optimal tactics, but also the methods of its therapy, immunohistochemical examination is necessarily performed. Results of immunohistochemical study of the level of expression of estrogen and progesterone receptors determine the molecular subtype of breast cancer, which allows selecting the most effective method of treatment, as well as evaluating the prognosis of the course of the disease.

Patients with breast cancer expressing tissue antigens were divided into **4** molecular-genetic subtypes: the **luminal A** – receptors of estrogens and progesterone are positive, the receptor of epidermal growth factor-2 (HER-2 /neu) – negateve; **luminal B** – receptors of estrogens and progesterone positive, Her-2/neu – positive; **Erb-B2 overexpressing** – estrogens and progesterone receptors are negative, Her2/neu – positive; **basal-like** – the receptors of estrogens and progesterone are negative, Her-2/neu – negative, which must be taken into account for the prognosis of the course of the disease and the choice of treatment tactics for patients [2].

Material and methods. The material for the study was clinical data and tumor tissue of 150 women suffering from breast cancer, aged 33 to 79 years who were on treatment at the Republican Scientific and Practical Center of Oncology and Medical Radiology. N.N. Alexandrov "from 2015 to 2018 years.

The level of expression of tissue antigens to women suffering from BC was performed by immunohistochemical method using DAKO reagents (Denmark) and visualization system (EnVision +).

According to the results of molecular biological studies, it was established that luminal type A was detected in 81 (54%) patients with breast cancer, luminal B was in 24 (16%) female patients with breast cancer, Erb-B2 overexpressing in 33 (22%) patients with BC, basal-like – in 12 (8%) patients with breast cancer.

During the analysis of the obtained data, it was revealed that for the luminal type A the first stage of the tumor process prevailed, verified in 22% of patients, luminal B type – I (42%) tumor stage, Erb-B2 overexpressing type – IIB (27%) and IIIC (24%) tumor stage, basal type – IIA (33%) and IIIC (25%) tumor stage.

In the group of patients with luminal type A, luminal type B and Erb-B2 overexpressing type, infiltrative protocol cancer with a moderate degree of differentiation (G2) prevailed. In patients with a basal-like type, infiltrative ductal cancer with a low degree of differentiation (G3) was identified.

Thus, the determination of the molecular-biological profile of breast cancer on the basis of the expression of the test markers allows predicting the course of the disease and selecting a pathogenetically grounded individualization treatment strategy.

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STRONGILOIDOZ AMONG INHABITANTS OF THE MINSK ZOO

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In work the ekologo-faunistic characteristic of contamination of hoofed inhabitants of the Minsk zoo is given by sort Strongylata helminth.

Keywords: helminth, contamination, intensity, strongiloidoz

Strongilidoz - the disease caused by sort Strongylata helminths. The disease is widespread everywhere. Invazirutsya most intensively and heavier young animals carry infection. Is registered generally at young growth during the aestivo-autumnal period.

Mass infection is promoted by high resistance of invasive larvae to influence of external factors. In the dried-up state they can keep viability over 1–1,5 years, and from influence of high temperature perish in the damp environment at 50°C, in dry – at 60°C. The seasonal extensiveness and intensity of an invasion strongiloidozy is in direct dependence on klimato-geographical and economic conditions, is equal as from a physiological condition of animals.

In the conditions of bondage animals also suffer from this sort of helminth. We have conducted researches on distribution of a strongilyadoz among hoofed animals of the Minsk zoo.

The most often met helminth among hoofed inhabitants of the Minsk zoo belongs to the class of nematodes (Nematoda).

We on identification of a strongilidoz among hoofed inhabitants of GKPU «Minsk Zoo» have surveyed 11 types of hoofed animals (*Sus scrofa, S. Bucculentus, Capreolus capreolus, Elaphurus davidianus, Bison bonasus, Copra gircus, Cap. falconeri heptneri, Alces alces, Ovis ammon aries, Equus caballus, Equus caballus*). At all surveyed types this activator is revealed. Indicators of contamination varied from the maximum value at a vintorogy goat (93,8), to minimum – at the vietnamese pig (0,4).

Indicators of contamination differ at representatives of hoofed animals of a zoo. The greatest indicator of intensity is noted at a vintorogy goat (23%), the smallest – at the vietnamese pig (1%).

Availability of this helminth demands holding special protigelmintozny events which to allow to lower these indicators from inhabitants of a zoo. First of all, this improvement of a condition of feeding and keeping of animals as it is proved that at full feeding and normal conditions of placement of a strongilyatoza in most cases proceed asymptomatically. Animals should be subjected to numerous expulsion of helminths. Careful performance of this action happens enough to liquidate strongilyatoza.