THE EPIDEMIOLOGICAL ASSESSMENT OF INCIDENCE INDICATORS OF DIFFERENT FORMS OF THYROID CANCER IN THE POPULATION OF THE REPUBLIC OF BELARUS

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One of the expected adverse medical consequences of the Chernobyl accident is an increase in cancer incidence in the affected population of our country [1].

The Republic of Belarus occupies one of the leading places in the world in terms of the incidence of thyroid cancer. The problem of thyroid cancer in Belarus became especially acute after the accident at the Chernobyl nuclear power plant, when the incidence increased several times, and in certain groups of the child population by 100 times. It is believed that papillary thyroid cancer is radiation-induced, but to date there has been no study of other forms of thyroid cancer [2,3].

Purpose. Conducting an epidemiological analysis of the incidence of papillary thyroid cancer, follicular cancer, medullary cancer and anaplastic thyroid cancer.

Material and methods. Research method: epidemiological analysis. The material for the study of various forms of thyroid cancer was the data of the Belarusian Cancer Registry for 2001-2017.

Findings and their discussion. In 2001-2017, 19,693 cases (16,195 in women and 3,498 in men) of thyroid cancer were registered in the Republic of Belarus. The ratio of the number of sick men and women during this time was 4.6 / 1.

In the structure of the incidence of thyroid cancer, the main share is occupied by papillary thyroid cancer (93%), follicular thyroid cancer (1.81%), medullary thyroid cancer (2.42%) and anaplastic thyroid cancer (0, 59%). At the same time, a pronounced increase is noted only for papillary thyroid cancer (the growth rate was ARC = 1.9 (1.51-2.3)% per year ($p > 0.05$)

The analysis of gross intensive, standardized, age-related indicators of morbidity and cumulative survival of various types of thyroid cancer in the Republic of Belarus revealed a significant increase in the incidence of papillary thyroid cancer since 2001.

Between 2001 and 2017, 19,693 cases (16,195 in women and 3,498 in men) of thyroid cancer were registered in the Republic of Belarus. The ratio of sick men to women during this time was 4.6 / 1.

Figure 1 shows the structure of the incidence of malignant neoplasms of the thyroid gland. As can be seen from the figure, papillary thyroid cancer is in the first place in the structure of the disease (about 93%, both in men and women).

During 2001-2017, 18,323 cases (15,166 in women and 3,157 in men) of papillary thyroid cancer (PC) were registered in the Republic of Belarus. The ratio of sick men to women during this time was 4.8 / 1.

During the whole period there is a significant increase in the number of annually detected cases of papillary thyroid cancer in the Republic of Belarus. Thus, the number of newly registered new cases in 2001-2017 increased from 944 to 1,297 cases (from 148 to 245 cases in men and from 782 to 1,052 in women). The average annual growth rate was APC = 1.9 (1.51–2.3)% per year ($p > 0.05$).

In turn, in the structure of the incidence of malignant thyroid tumors in the population of Belarus, the number of people suffering from follicular thyroid cancer during 2001-2017 was about 1.8%, both men and women.

During 2001-2017, 357 cases (283 in women and 74 in men) of follicular thyroid cancer were registered in the Republic of Belarus. The ratio of sick men to women during this time was 0.26 / 1.

Also in the structure of morbidity of the population of Belarus with malignant neoplasms of the thyroid gland, medullary cancer during 2001 - 2017 accounted for about 2.4%, both in men and women.

In 2001-2017, 476 cases (340 in women and 136 in men) of medullary thyroid cancer were registered in the Republic of Belarus. The ratio of the number of sick men and women during this time was 0.4 / 1.

It should be noted that in the structure of the incidence of malignant thyroid tumors with anaplastic thyroid cancer during 2001-2017, the incidence of malignant neoplasms of the thyroid gland was about 0.59%, both in men and women.

In 2001-2017, 116 cases (87 in women and 29 in men) of anaplastic thyroid cancer were registered in the Republic of Belarus. The ratio of sick men and women during this time was 0.33 / 1.

Conclusion. Therefore, in the structure of the incidence of thyroid cancer, the main share is occupied by papillary thyroid cancer (93%), a smaller share are follicular thyroid cancer (1.81%), medullary thyroid cancer (2.42%) and anaplastic thyroid cancer (0.59%). At the same time, a pronounced increase is observed only for papillary thyroid cancer (the growth rate was APC = 1.9 (1.51-2.3) % per year) ($p > 0.05$) (Fig. 1).

In all forms of thyroid cancer, the incidence was higher in women than in men (statistically significant in papillary thyroid cancer, follicular thyroid cancer and medullary thyroid cancer). The incidence was also higher in urban than in rural areas (significant only in papillary thyroid cancer).

Peaks in the incidence of various forms of thyroid cancer are in different age groups. The youngest is papillary thyroid cancer (55-59 years), followed by medullary thyroid cancer (60-64 years), followed by follicular thyroid cancer (65-69 years) and the oldest is anaplastic thyroid cancer (75-79 years).

Mortality from thyroid cancer in Belarus is significantly lower compared to the incidence. At the same time, there is a decrease in mortality for papillary thyroid cancer (APC) (APC = -2.1 (-3.91-0.24)%, (p> 0.05)), for other forms of changes in the dynamics of mortality was not.

Papillary thyroid cancer in the early stages (I-II) is detected in 74.3% of cases (in stage I in 68.1%), follicular thyroid cancer - in 75.1% of cases (in stage I in 52.4%), medullary thyroid cancer - in 57.7% of cases (with stage I in 34.5%). Anaplastic thyroid cancer is characterized by late diagnosis, in stage I-II only 9.3% of cases are detected (with stage I in 0.8%). 83.9% of cases of anaplastic thyroid cancer are detected in the presence of distant metastases.

In the analysis of survival rates, it was found that the best prognosis is observed for papillary thyroid cancer and medullary thyroid cancer.

Anaplastic thyroid cancer is the most aggressive form of thyroid cancer (less than 30% of patients survive in the first year).

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ENVIRONMENTAL PROTECTION AND ENVIRONMENTAL EDUCATION AS THE MAIN AREAS OF STUDENT VOLUNTEERING

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Environmental protection is a prerequisite for ecological safety, sustainable economic and social development of the state [2]. Measures to protect the environment can be taken by individuals, organizations and government. The negative impact of the current lifestyle on the environment makes it necessary to pay more attention to the analysis of human environmental behavior and its social interaction. The main component of the Sustainable Development Concept is universal responsibility. The participation of young people in environmental protection plays an important role [1]. One of the most effective forms of work with young people to form their active life position is to involve them in the work of various public organizations.

The purpose of this work is to analyze the environmental activities of the "Environmental Patrol" group from the point of view of a public ecologist for the period of work from 2005 to 2019.