

## INFLUENCE OF SEVERAL FACTORS ON THYROID CANCER DEVELOPMENT

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One of the main factors in the development of thyroid cancer is radiation exposure. The accident at the Chernobyl nuclear power plant led to a significant increase of this disease. In Belarus, the most affected were southern areas.

In this work, we have studied a number of factors influencing the development of thyroid cancer: age of the test at the time of the Chernobyl accident, gender, belonging by blood.

In the result, there had been some pattern of development of the disease: children 2–5 years old at the time of the Chernobyl accident, women and people with A (II) blood group have higher risk of developing arranged compared to other population groups.

*Keywords:* thyroid cancer, radiation, radiation exposure, Chernobyl, blood group.

Thyroid cancer (TC) is one of the most spread malignant tumors of endocrine system. It may develop in any age. Frequency of its revelation has steady growth. Prognosis exists that number of newly revealed TC will be greater. Several factors of TC development exists. Nevertheless, radiation influence is considered as main reason of TC development. The role of radiation factor in the TC development in children and teen-agers after accident on Chernobyl NPP is taken for granted.

Disaster on Chernobyl NPP lead to significant growth of patients with TC. In Belarus, this pathology is met more frequently in southern regions.

The aim of investigation was to study several factors of TC development.

Archive data of RCI of radiation medicine and endocrinology about 300 children and teen-agers with TC have been used. The report of outpatient department and department of medical rehabilitation (period 01.01.2015 – 03.04. 2017) of RSPC of radiation medicine and human ecology was analyzed. Histories of disease of 30 patients with TC were analyzed.

We revealed that number of children and adolescents with TC have increased after 5–6 years after accident on Chernobyl NPP. The number of girls teen-agers was 10 % more, then boys.

The age of children during peak of TC revealing (1993–1996) was 7–15 years. Therefore, there were persons who have been 2–5 years old at the moment of the accident on Chernobyl NPP.

According to the report of outpatient department and department of medical rehabilitation (period 01.01.2015–03.04. 2017) of RSPC of radiation medicine and human ecology, we can see that Gomel region during last years TC was diagnosed more often in persons of middle age. It concerns women from 40 years and older. At the moment of the accident on Chernobyl NPP they were 11 years and older.

Data about blood groups from histories of disease of patients with TG were analyzed. Distribution of blood groups was following: 26,7 % of patients with TG had O (I) blood group, 53, 3% – A (II) blood group, 6,7 % – B (III) blood group and 13,3 AB (IV) blood group.

Received results were compared with data about common distribution of blood groups among the population of Republic of Belarus. In Belarus prevalence of blood groups is following: O (I) blood group near 35–40 %, blood group A (II) – 35–37 %, blood group B (III) – 15–20 %, blood group AB (IV) – 5–10 %.

The comparison of these data shows that greatest risk of TC development have persons with blood group A (II) and minimal – with blood group B (III).

In the result of this investigation we can conclude that children who were 2–5 years old at the moment of the accident on Chernobyl NPP, women and people with blood group A (II) have higher risk of TC development in comparison with other population.