

THYROID DISORDERS AFTER ONCOLOGIC TREATMENT IN CHILDREN

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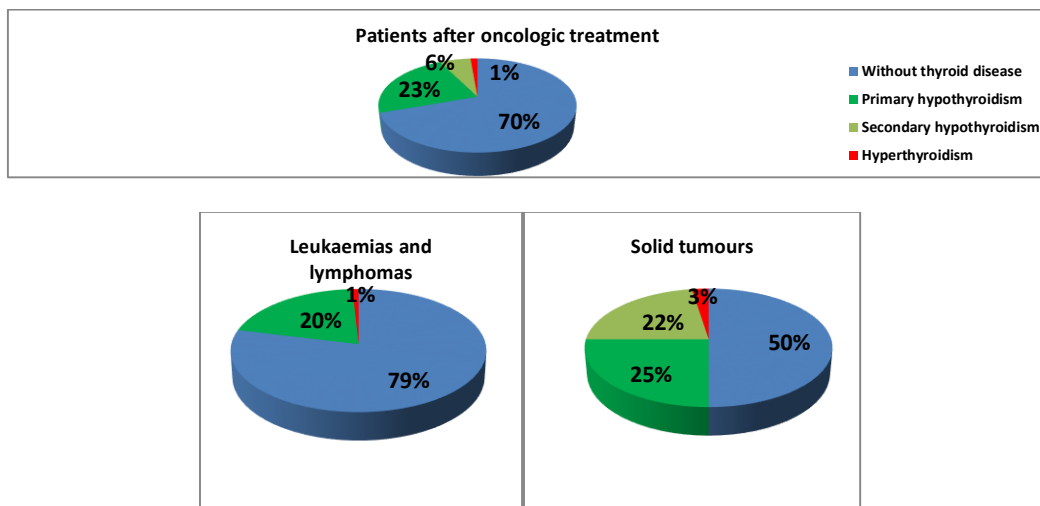
Background:

The length of patient survival after cancer treatment is increasing and in some cases does not differ from the average life span in healthy individuals.

The aim of the study is evaluation of thyroid function after oncologic treatment in children .

Method: A group of 158 patients aged 16-25 who underwent oncologic treatment in childhood and the control group -66 children and young adults were examined. The prospective study was conducted in the period between 4 and 19 years after the diagnosis. After physical examination we assayed the levels of TSH, fT4 and fT3 (Abbott). TPO Ab and Tg Ab (DAKO Denmark); in patients with hyperthyroidism - the TSI Ab (BRAHMS Germany). The ultrasound of the thyroid gland was done using a Siemens-2000 device.

Results:



The prevalence of hypothyroidism in the group of patients was statistically significantly higher than in the control group 27.2% versus 6.1%. p=0.001 .

significantly higher prevalence of thyroid nodules in children who underwent oncologic treatment.

Primary and secondary hypothyroidism after oncologic treatment

	n	Primary hypothyroidism	Secondary hypothyroidism
Cytostatics	146	23,2%	0,6%
XRT	75	25,3%	12%
BMT	37	40,5%	2,7%
Control group	66	6.1%	0

The occurrence of primary hypothyroidism was correlated with the total cytostatics dose and with the total X-irradiation XRT dose.

	n	AITD	Hashimoto's thyroiditis	Graves' disease
Oncologic treatment	158	11.3%	10.1%	1.3%
Hematooncologic disease	118	5.9%	5.1%	0.6%
Solid tumours	40	12.5%	10%	2.5%
Control group	66	7.5%	6.1%	1.5%

The incidence of autoimmune thyroid diseases was statistically significantly higher in children after BMT. There was a statistically

The nodules developed more frequently after XRT anticancer therapy and their prevalence was correlated with the total XRT dose.

Disease	n	Nodules of the thyroid diameter > 0.5mm	Treatment	n	Nodules of the thyroid diameter > 0.5mm
Oncologic treatment	158	12.7%	Cytostatic treatment	146	10,3%
Hematooncologic disease	118	11.9%	XRT	75	26,7%
Solid tumours	40	15.0%	BMT	37	5,4%
Control group	66	0%	Control group	66	0%

Conclusions:

1. Primary and secondary hypothyroidism is more prevalent in patients who have received oncologic treatment.
2. The cytostatics and XRT have an effect on the development of primary hypothyroidism.
3. BMT in children has significant effect on development of hypothyroidism in course of AITD.
4. Cytostatic treatment and XRT contribute to development of potentially neoplastic thyroid nodules.