



**THE DIRECT RESULTS OF THE COMBINED TREATMENT OF  
HERMINOGENIC TUMORS OF CHILDREN'S AND ADOLESCENCE  
OVARIAN**

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## Abstract

Malignant ovarian tumors in the structure of oncological pathology of this age group occupy 5-6 place after leukemia, lymphomas, tumors of the nervous system, bones and soft tissues. An indicator of the incidence of malignant neoplasms of ovaries (MNO) per 100 thousand female population up to 10 years of age according to world statistics is less than 0.01; from 10-15 years-0.3-0.5; from 15 to 20 years - 0.8 [1, 5, 9]. The vast majority of the name in young and young age (95%) have a non -epithelial structure. Among the malignant neoplasms of ovary in girls, germinogenic tumors (82%), tumors of the sexual -length stroma (9%), gon -shaped tumors (4%), cystadenocernomas (3%) [4, 6, 8, 10] are most often detected.

**Keywords:** Germinogenic ovarian tumors, children and adolescence, immunohistochemistry, chemotherapy.

## Introduction

According to some authors of the ovarian tumor in children and adolescents, they are more common at the age of 10 to 16 years, i.e. During puberty, when the most pronounced hormonal shifts in the body occur. This is due to the strengthening of gonadotropic stimulation during this period, which is not always adequate, and, accordingly, with the beginning of the active functioning of the ovaries and requires a special approach in diagnosis and treatment [1, 2, 5, 7].

Thus, at present, there is a need to develop new more effective methods for determining the forecast Herminogenic tumors of the ovaries (HTO) of children's and adolescence. This requirement today meets the introduction of immunogymic





methods of research into the pathological practice of which the search for prognostic and predictive markers is carried out, which is one of the most important promising directions in oncomorphology [1, 3, 10].

### **The purpose of the study**

Determining the role of the P53 suppressor, BCL -2 oncoprotein and tumor markers in the forecast of HTO of children's and adolescence.

### **Materials and methods**

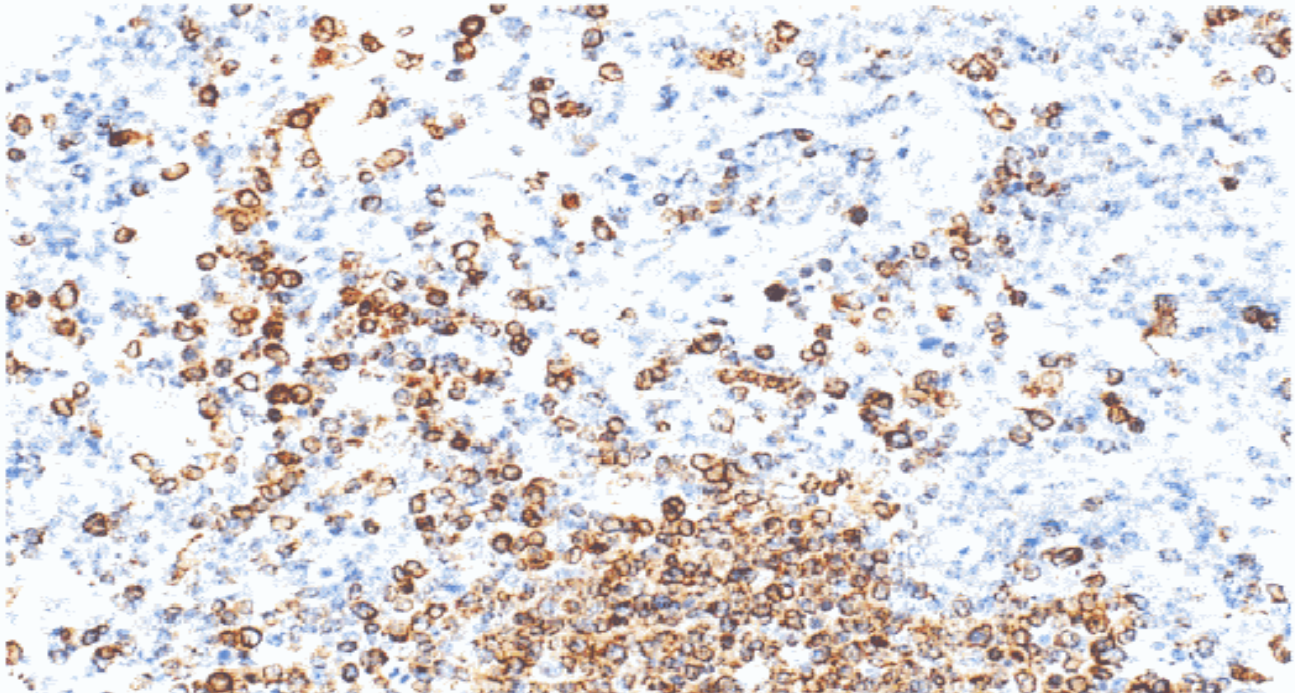
Republican Specialized Scientific and Practical Medical Center for Oncology and Radiology (RSSPMCOR) and the Ministry of Health of the Republic of Uzbekistan

From 2010 to 2023, 85 patients with a diagnosis of malignant germinogenic ovary tumors were under examination and treatment.

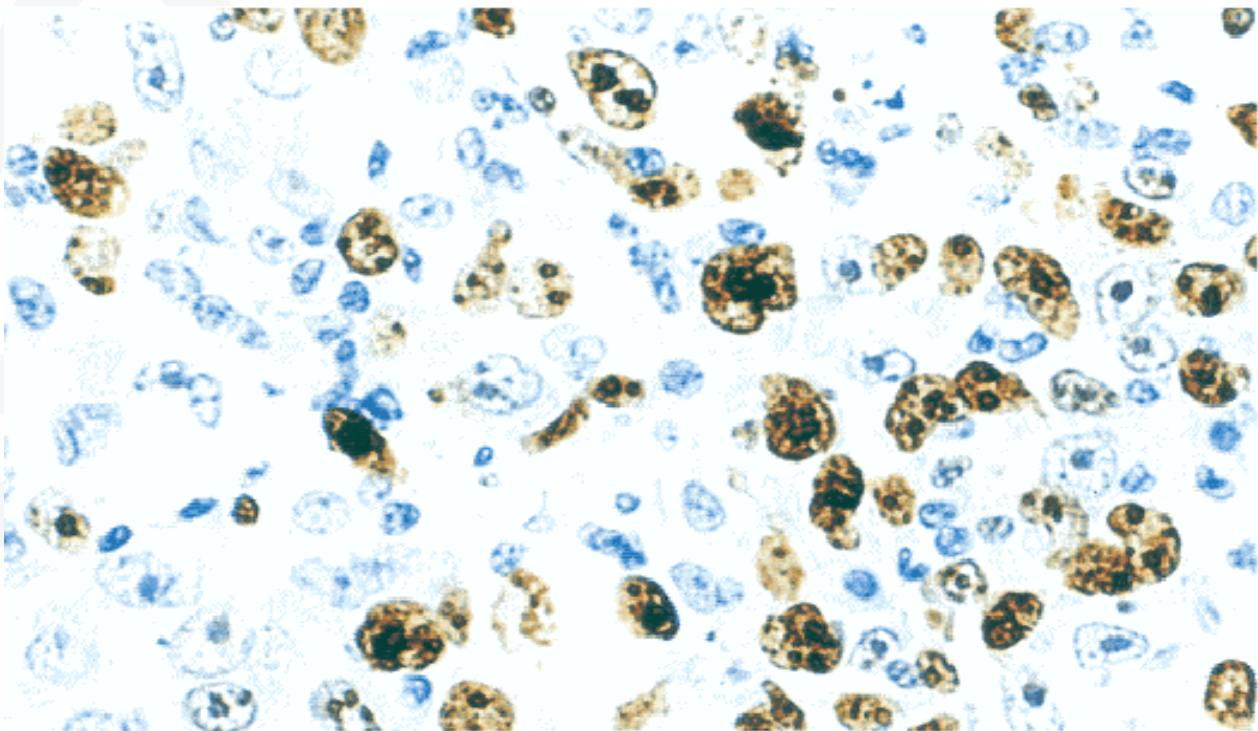
Studies have shown that out of 85 (100%) patients 46 (54%) patients aged 1 to 14 years, 39 (46%)- from 15 to 18 years.

The diagnosis is established using standard, generally accepted methods of research and determination of tumor markers CA 125, AFP and HG. The stage of the disease was determined on the basis of the classification of FIGO and the TNM system. Of the 85 (100%) patients 4 (4.7%) corresponded to I (T1a, B, C, No, Mo G<sub>1,2,3,4</sub>) Stages of the process, 24 (28.2%)- II (T<sub>2A</sub>, B, C, No, Mo G<sub>1,2,3,4</sub>) Stages, 42 (49.4%) - III (T any, N<sub>1</sub>, Mo G<sub>1,2,3,4</sub>) Stages and in 14 (16.4%) patients, the diagnosis is made in IV (tumor with distant metastases) stage of the disease.

In the immunohympy study of non -epithelial ovarian tumors, 30 patients were included. The criterion for the selection of patients was a morphologically confirmed diagnosis of the germinogenic ovarian tumor. Histological preparations (after operational material) are ill in other clinics revised in the department of pathomorphology RSSPMCOR Ministry of Health of the Republic of Uzbekistan. Immunohistochemical studies were performed on samples of tumor ovarian tissue, removed during primary surgical intervention and without previous therapeutic effects. After surgery, all patients were carried out by chemotherapy courses, the effectiveness of which did not significantly differ. In all 30 cases of germinogenic ovarian tumors, the degree of genes expression was determined: low, moderate and strong (Pic. 1 and 2).



Picture 1. Strong expression of the p53 suppressor genes.



Picture 2. Strong expression of oncoprotein BCL - 2.

### Results and Discussion

All patients underwent surgical treatment: 57 (67.0%) patients underwent surgical treatment at the Republican Scientific and Practical Medical Center of Oncology and





Radiology, 9 (10.5%) patients at the Central Children's and Clinical Institute, 19 (22.3%) patients at other medical institutions (Table 1).

**Table 1. Volume of surgical intervention performed in the study group**

Volume of surgery	Number of patients	%
Unilateral tubovariectomy with resection of the greater omentum	22	25,8
Unilateral tubovariectomy with resection of the greater omentum + biopsy of the other ovary	34	40
Extirpation of the uterus with appendages + resection of the greater omentum	12	14,1
Amputation of the uterus with appendages + resection of the greater omentum	5	5,8
Bilateral tubovariectomy with resection of the greater omentum	4	4,7
Unilateral tubovariectomy	5	5,8
Tumor biopsy	3	3,5

The results of the morphological study showed that: 32 (37.6%) had dysgerminoma, 28 (32.9%) had embryonic carcinoma, 18 (21.7%) had immature teratoma, 3 (3.5%) had endodermal sinus tumor, 2 (2.3%) had granulosa cell tumor, and 2 (2.3%) had malignant thecoma (Table 2).

**Table 2. Distribution of patients by morphological structure of the tumor**

Histological type of tumor	Number of patients	%
Dysgerminoma	32	37,6%
Embryonic carcinoma	28	32,9%
Immature teratoma	18	21,7%
Endocermal sinus tumor	3	3,5%
Granulosa cell tumor	2	2,3%
Malignant thecoma	2	2,3%

In the postoperative period, 4-6 courses of adjuvant polychemotherapy were administered. The chemotherapy regimen was selected based on the histological



structure and degree of differentiation of the tumor, as well as depending on the severity of prognostic signs (Table 2).

**Table 2. Chemotherapy regimen**

Expression level	Process flow	BEP chemotherapy regimens (bleomycin etoposide, cisplatin).	Number of courses
High expression	More aggressive	PVB (cisplatin, vinblastine, bleomycin,).	From 6 to 8 courses
p53 and bcl-2	Relatively favorable	BEP (bleomycin etoposide, cisplatin).	
Moderate expression	More favorable	VEP (vinblastine, etoposide, cisplatin).	From 4 to 6 courses

Of the 30 (100%) patients, 7 (23.3%) had high expression of the oncoprotein Bcl-2, 14 (46.6%) had moderate expression, and 9 (30%) had no expression. A study of the p53 suppressor gene showed that 9 (30%) patients had high expression, 11 (36.6%) had moderate expression, and 10 (33.3%) had no expression. The immunohistochemical studies showed that in the group with highly positive expression of bcl-2 and p53, there was a more aggressive course of the tumor process, subsequently early relapses and metastases were detected in these patients, which required a more aggressive course of chemotherapy (from 6 to 8 courses according to the BEP, PVB, VEP scheme), and in the group with low expression or negative p53 and bcl - 2, more gentle chemotherapy regimens and schemes are effective (from 4 to 6 courses according to the BEP, EP scheme) (Table 2). In 3 patients with high expression of bcl - 2, primary multiple drug resistance was noted. In patients with a low degree of expression of mt p53 and bcl - 2, long-term remission was noted after the combined treatment.

The analysis of the immunohistochemical study results showed a high correlation between the increase in the level of bcl-2 expression, rapid tumor growth and, as a result, the neglect of the oncological process. A high probability of tumor recurrence was also noted. In the group with highly positive mt p53 indicators, there was an aggressive course of the tumor process, subsequently early relapses and metastases were detected in these patients, which required repeated courses of aggressive chemotherapy.

### **Conclusion:**

Many studies have been devoted to the study of the expression of the mutated p53 suppressor gene and the bcl-2 oncoprotein in the cells of ovarian germ cell tumors in children and adolescents and its prognostic significance, but the results are





contradictory. According to preliminary data from our study, the prognosis for ovarian germ cell tumors in children and adolescents depends on the expression level of these genes, i.e., it worsens with an increase in the expression level of the mutated p53 suppressor gene and the bcl-2 oncoprotein, early relapse and metastases of the tumor are observed, and with a low expression level, a more favorable course occurs, the overall and relapse-free survival increases.

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