

ment of the results was carried out with the help of standard methods.

In the majority of the researched serum samples we managed to find out the AB to BP of all three classes (IgA, IgM, IgG). However, in the healthy women the specific gravity of serum samples, in which no BP AB of the A class were detected, turned out to be the highest one (8,3%). The content of all three classes AB to BP is authentically higher in the BC carriers than in the healthy. There were no differences on the BP AB levels of all three classes detected between the patients in different stages of the tumor process. Thus, the BP AB are formed both in the healthy and BC patients. At that, the levels of BP AB in BC patients are higher than in healthy women.

In our opinion, to establish a cancerogenes AB critical level, the exceedence of which could be estimated as the sign of cancerogene-protein adducts quantity increase, i.e. as the factor of an individual carcinogenic risk, is extremely important to all practical purposes. For this particular purpose we have analyzed the variational series of the A, M and G classes BP AB content in the healthy women group and on the basis of the τ criterion defined the affinity of utmost variants to the general aggregate of the factors. We relatively accepted the BP AB quantity maximum value, higher of which the aggregate variants "fall out" of the variational series on the τ criterion, for the upper limit of normal. 4,6 mcg/ml for the A class BP AB, 21,8 mcg/ml – for the G class ones, 38,7 mcg/ml – for the M class - turned out to be such limits. It has been found that the number of women, in which the BP AB content exceeds the relative limit of norm, among the BC carriers is authentically higher (on the χ^2 criterion) than that among the healthy women.

As a matter of record one can suppose the following:

- BP plays a significant role in the BC pathogenesis not in all, but a part of patients;
- in some healthy women the BP adducts formation with the protein (the result of which is the BP AB appearance) exceeds a certain critical level and that is why the malignant tumor appearance risk is increased in them;
- the quantity of this or that class BP AB depends not only on individual features of the BP metabolism, but also on the immune response gene complement.

Conclusions.

- In blood serum of healthy women there are antibodies to BP.

- In BC patients the content of all three classes AB to BP is higher, than in healthy women.
- There are no isoallotypic features of AB to BP at BC revealed.
- An increased content of AB to BP can be a sign of a high oncorisk, but the lack of AB or their low content in the serum is not the sign of a low oncorisk.
- The content of AB to BP in BC patients doesn't depend on the stage of the tumor disease.

The article is admitted to the International Scientific Conference «Advances in current natural sciences», Moscow, May 13-15, 2007, came to the editorial office on 15.11.07

FUNCTIONAL MORPHOLOGY OF TUMOR VESSELS IN OVARIAN CANCER

Antoneeva I.I., Petrov S.B.

*Ulyanovsk State University, Ulyanovsk, Russia,
Kazan State University, Kazan, Russia*

Angiogenesis is a process of the new vessel generation from the existing vascular bed. It is typical for a tumor progression. The increase the invasiveness and metastatic activity of the neoplasm is a result of the angiogenesis.

The parameters of the vascular bed were studied based on the operational bioptic material of the primary tumor of 83 ovarian cancer (OC) patients.

It was found that in primary OC tumors vessels are distributed very irregularly. They have poorly developed junctional stroma and thin walls. Very rarely the vessels are covered directly by neoplasm. The considerable increase in number of the bundle vessels, hyperinflated and hyperemic vessels can be found in the marginal layer of the tumor.

The main amount of vessels of the tumor microcirculation is capillary vessels with the diameter more than 10 μm (Table 1).

The endothelial cover of the tumor stroma in small sinuses are represented by one or two endothelial cells the nuclei of which emerge in a vessel lumen and cytoplasmic outgrowths embrace the vessel on its perimeter forming a solid tube. At the same time the basal membrane is often not recognized or distinguished as a discrete plate. The increase of a caliber of the new-formed vessels is not accompanied by their structural alteration: even large diameter vascular walls are close to the structure of the capillary vessel walls.

Table 1. Parameters of the tumor vascular bed

Vascular parameter	M	m	V.c.	Max	Min
Volume, %	4,33	0,25	0,46	12,6	1,2
Number in 1 mm ² of the tumor	23,7	1,1	0,38	62,2	12,1
Length in 1 mm ³ of the tumor, mm	423,3	37,4	0,72	1354,0	25,4
Wall square in 1 mm ³ of the tumor, mm ²	14,5	1,22	0,7	77,0	2,2
Diameter 5-10 μm, %	16,2	2,17	0,29	100,0	0
Diameter 11-20 μm, %	43,4	1,25	0,47	58,8	0
Diameter 21-30 μm, %	27,3	0,95	1,16	40,8	0
Diameter 31-50 μm, %	6,8	0,3	1,57	12,8	0
Diameter 51-100 μm, %	4,1	0,18	2,77	8,5	0
Diameter 101-200 μm, %	2,2	0,08	2,95	3,9	0

Therefore, the investigation of the vascular density on 1 mm² of the tumor, the ratio of their diameters, volume of vessels, the length and square of vascular walls in 1 mm³ of tumor tissue showed in average the high level of blood supply in the primary tumor knot in the ovarian cancer, though in particular cases the parameter variations were significant.

The article is admitted to the III International Scientific Conference «Present-day problems of experimental and clinical medicine», Thailand (Bangkok, Pattaya), December 19-27, 2007, came to the editorial office on 31.10.07

PRIMARY SCREENING OF PIPERIDINE SERIES NEW COMPOUNDS

Baizakova K.K., Shin S.N., Praliyev K.D.,
Yu V.K., Ikhsanova Z.A.

*Republican State Enterprise "National Center of Medications, Medical Purpose Products and Equipments Expertise", Institution of Chemical Sciences named after Berkutov A.B.
Almaty, Republic of Kazakhstan*

One of the search ways for new medicines is studying fusion compounds' pharmacological properties among various analogues of well known and widely applied in medicine substances. The piperidine derivatives are of great interest. They are the products of piperidine reduction and are of low toxicological concern as pyridine is a part of many natural complexes (vitamin PP, Vitamin B6, nicotine and others). We have carried out the investigations of new piperidine derivatives synthesized at the Institute of Chemical Sciences named after Berkutov A.B. under the guidance of Academician Praliyev K.D.. The spasmolytics' primary screening method used is a model of isolated organs. The investigation on small intestine is the most available and, in this connection, very popular method. For the experiment animals of one

species, sex, age and body mass ($\pm 10\%$) are selected. The purpose of our work has become the study of biological potency and toxicity of a new piperidine derivatives' range obtained at the Institute of Chemical Sciences named after Berkutov A.B., the Department of Education and Science of Kazakhstan, under the guidance of a member of the National Academy of Sciences Praliyev K.D.. The antispasmodic activity was investigated on the rats' small intestine in conditions of calcium and acetylcholine spasm. The work was carried out on the device oriented to the work with isolated organs and manufactured by the Ugo Basile Company, Italy. The acute toxicity was defined by means of a single intraperitoneal introduction of the investigated preparation to white nondescript mice weighing 19-21 g. The evaluation was made according to the LD₅₀ factor. 54 new compounds have been investigated. The research results testify to the presence of antispasmodic activity of the following compounds: NA-281, NA-291, NA-309, NA-310, NA-311, NA-315, NA-320, NA-321, NA-323; the compounds NA-280, NA-294, NA-309, NA-311 blocking calcium spasm and the rest ones – both kinds of spasm. The high antispasmodic activity of the NA-311 and NA-323 compounds, blocking both producing calcium and acetylcholine spasms and with it being of low toxicological concern (NA-311 - 220 mg/kg \pm 33,33; NA-323 - 210 mg/kg \pm 7,07; the toxicity of no-spa - 213,8 mg/kg \pm 22,61), should be noted.

Conclusions: the piperidine derivatives, being close analogues of the natural compound – pyridine, - are promising for a profound search and development of new low toxicological concern medicines on their basis.

The article is admitted to the International Scientific Conference «Present-day problems of experimental and clinical medicine», Thailand (Bangkok, Pattaya), December 19-27, 2007, came to the editorial office on 12.11.07