Materials of conference

ANTIBODIES TO BENZO[A]PYRENE IN WOMEN SUFFERING FROM GASTRIC AND INTESTINAL CANCER

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The serum samples of 205 women served as the research material. Among them there were 45 samples with the gastric cancer (GC) histological diagnosis, 70 – with intestinal cancer (IC) and 90 healthy samples. Every woman gave a written agreement to take part in the research. The content of antibodies (AB) to benzo[a]pyrene (BP) was determined by means of the modified by us method ELISA. The statistic treatment 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). Authentic differences were detected on the BP AB levels of the classes A and G between the healthy and GC patient women, and also between the healthy women and IC patient ones. The fact, that 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%), comes under notice. On the content of the BP AB of the M class the compared groups didn't differ.

There were no differences on the BP AB levels of all three classes detected between the patients in different stages of the tumor process, and also between the GC and IC patients.

Thus, the BP AB are formed both in the healthy and GC and IC patients. At that, the levels of BP AB of the A and G classes in the considered localizations cancer patients are higher than in healthy women.

The fact, that BP AB are detected not only in malignant tumor patients, but also in the majority of healthy women, is of great interest as well.

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 A and G class BP AB content exceeds the relative limit of norm, among the GC and IC patient ones is authentically higher (on the χ^2 criterion) than that among the healthy women. There were no differences on the M class BP AB content detected.

Conclusions

- In blood serum of healthy women there are antibodies to BP.
- In GC and IC patients the content of AB to BP is higher, than in healthy women.
- The appearance of AB to BP at GC and IC has specific isoallotypic features: at GC and IC the A and G classes' antibodies content increases preferentially.
- 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 GC and IC patients doesn't depend on the stage of the tumor disease.

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ANTIBODIES TO BENZO[A]PYRENE IN WOMEN SUFFERING FROM BREAST CANCER

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The given research was carried out for the purpose of detecting antibodies (AB) to benzo[a]pyrene (BP) in breast cancer (BC) carriers and also revealing isoallotypic features of their appearance.

The serum samples of 310 women served as the research material. Among them there were 220 BCC and 90 healthy women.

The content of antibodies (AB) to benzo[a]pyrene (BP) was determined by means of the modified by us method ELISA. The statistic treat-

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.

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FUNCTIONAL MORPHOLOGY OF TUMOR VESSELS IN OVARIAN CANCER

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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 microcirculature 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.