associated with increased breast cancer risk (OR 3.22, 95% CI 2.34-4.43) and endometrial cancer risk (OR 2.43, 95% CI 1.72-3.44). An increased risk for the development both breast cancer (OR=2.18, 95% CI 1.58-3.01) and endometrial cancer (OR=2.52, 95% CI 1.78-3.56) was associated also with another CYP1B1 polymorphic form – Ala119 CYP1B1. Statistically significant increase of risk for the development of endometrial but not breast cancer was shown to be associated with CYP1B1 Val432Leu polymorphism. This finding can be considered as a result of a higher estrogen-dependency of the endometrial tissue compared to breast tissue, and hence higher sensitivity of the endometrium tissue to the genotoxic action of catecholestrogens. We consider our results to be useful for further analysis of these two diseases regarding their estrogen-dependency and prevention. Also, the revealed associations provide a new detail to the whole picture, illustrating the impact of genetic variations in the genes of estrogen metabolizing enzymes to the individual breast and endometrial cancer susceptibility. Partly supported by the Norwegian Cancer Society and RFBR (03-04-49282).

P6

A new family of KIAA1245 genes with and without the HERV-K LTRs in their introns

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A transcript containing the long terminal repeat (LTR) and the sequence homologous to the KIAA1245 mRNA fragment were revealed among the transcribed LTRs of human endogenous viruses of the K family in normal and tumor tissues. Ten other sequences with a high level of homology to the KIAA1245 mRNA were found in the GenBank. The intron-exon structures were determined for all the sequences, and their exon sequences were compared. The comparison showed that they differ both in the extent of the exon homology and in the presence or absence of the HERV-K LTR in the third intron. The revealed sequences form a new gene family that comprises at least four subfamilies. Two of these subfamilies have the LTR, and the other two do not. We showed by PCR that the LTR was integrated into the introns after the divergence of the orangutan evolutionary branch from other hominoids but before the divergence of the gorilla branch, i.e., 8-13 million years ago. The total expression of the genes of this family was examined in a number of tissues. It was shown that LTR-containing genes of this family expressed in tumor, embryonic tissues and in transformed human cell cultures, in explored normal tissues of the mature organism the expression of genes of this family was not detected.

P7

The genetic consultation of the girls from risk groups of developing tumors of reproductive organs

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The diagnosis of ovarian tumors in girls is made at present as a chance finding. Taking into account that the doctors have not so extensive clinical experience we may conclude that mistakes in diagnostics of ovarian tumors on early stages have reached rather considerable figures. The problem is still more urgent because of increasing number of ovarian cancer cases in women. That is why special attention should be paid to the question of finding tumors of this localization in children's age. The comprehensive study of genetic and hereditary factors, which determine the origin of ovarian tumors in girls, can promote the solving of this problem. It is known, the younger is the patient with tumor the bigger is hereditary contribution in its occurrence (H. Lynch, 1984). First of all in our research we performed clinico-genealogical analysis of 21 girls who were operated on ovarian tumors. Their age was from 4 to 16. Teratomas were found in 10 girls, serose cilioepithelial formations - in 11. The clinico-genealogical investigation resulted in interesting data: there were cases of ovarian cancer, cancer of mammary gland and uterus in close relatives (a mother, a sister, a grandmother) in 14 out of 21 genealogies. Those 14 girls primordially had a high genetic risk for developing tumors of the reproductive sphere. Working out the problem of active diagnostics of ovarian tumors in girls, we made genealogical analysis of 520 probands - women with ovarian cancer. Among their relatives 34 girls were chosen (the 1st stage of relationship) aged from 3 to 15 years who had never been examined by a gynecologist before. Those girls made up the group of high genetic risk. They underwent the following examinations: ultrasound diagnostics of the organs in minor pelvis, computed tomography and rectal-abdominal examination of necessity. This screening program allowed finding out ovarian cysts for the first time (1 teratoma, 2 cystomas) in 3 girls aged 9, 12 and 14. Those cysts had not manifested themselves before the examination. The rest of the girls are under dispensary supervision twice a year. The given data lead to the conclusion that genetic approach may become rather effective in solving the problem of early diagnostics and prevention of ovarian tumors in girls, especially in genetic risk groups. While giving effective preventive help to children with the risk of malignant tumor developing we consider that the following measures are necessary to be taken: – to organize dispensary contingent of persons with high genetic risk of cancer development; – to arrange clinical monitoring of their state of health.