

diagnosis correct predicted the histological diagnosis. The patients with diagnosis dysplasia were recommended to using of impression cytology monitoring effects of the preventive treatment.

Conclusion: This study shows impression cytology employing a Biopore membrane to be a useful diagnostic tool in differentiation of pigmented tumors and suspected OSSN of the bulbar conjunctiva. Atypical melanocytes, which have migrated to the epithelial surface, can be detected by this technique. This technique is reproducible, economical and high informative. Impression cytology may be successfully used as non-invasive technology for diagnosing all the surface tumors and monitoring for cancer prevention.

P6

Effect of hyperhomocysteinemia on NMU-induced rat mammary tumorigenesis

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Despite the advent of new and aggressive therapeutics, breast cancer remains a leading killer among women; hence there is a need for the prevention of this disease. Hyperhomocysteinemia (HHcy), a consequence of disturbed methionine metabolism, is a well-known factor for several types of carcinoma, including breast cancer. Furthermore accumulating bodies of epidemiological studies have suggested an inverse association of dietary intake and blood concentrations of folate and vitamins B6 and B12, which are key cofactors directly involved in Hcy catabolism, with the risk of breast cancer. However, the major unanswered question whether or not HHcy is associated with cancer pathogenesis and is an indicator of tumorigenesis, remains elusive. Taking into account all above mentioned data, the aim of the work was to study the influence of experimental model of HHcy induced by feeding animals methionine enriched diet and HHcy corrected with vitamins B6, B9, B12 on the development of N-methyl-N-nitrosourea (NMU)-induced mammary tumors in female Wistar rats.

The study was carried out on seven-week-old virgin Wistar rats (n=100). Animals were kept at standard conditions with free access to water and experimental semi-synthetic diets. Diets were: 1) normal semi-synthetic diet; 2) 2% methionine-enriched diet; 3) 2% methionine-enriched diet with 5-fold increased level of vitamins B6, B9, and B12 compared to control and methionine enriched diets. Rats were fed diets supplemented beginning from seven days before initiation with NMU (50 days of age) to termination of latency period (90 days after NMU).

The results of study suggest that the HHcy modulates the susceptibility of mammary gland to NMU carcinogenesis. Despite the decrease of mammary tumor incidence by 26% ($p < 0.05$) as well as of multiplicity of palpable tumors by 33% ($p < 0.05$), the latency period decreased 1.23 times ($p < 0.05$) and portion of mammary adenocarcinomas induced by NMU increased by 27% ($p < 0.05$) compared to the analogous characteristics of animals from control group. Enriched of methionine diet with vitamins B6, B9 and B12 promoted (i) to the decrease of mammary tumour incidence and multiplicity of palpable tumours, (ii) to the decrease of the portion of malignant tumours among all the NMU-induced tumours, and (iii) to the 1.3 times increase of latency period compared to the animals obtaining the methionine diet.

Obtained results have demonstrated that the risk of mammary tumor incidence under HHcy conditions increases. This risk can be substantially reduced by

HHcy corrections by vitamins B6, B9 and B12. A negative influence of HHcy on the chemical induced mammary gland carcinogenesis is obviously due to them interaction of NMU mutagenic activity and modulation influence of HHcy on the epigenetic mechanisms of the regulation of the expression of genes associated with the malignant cell transformation.

P7

Flavonoid-positive plant fractions yield a potent inducer of promyelocytic leukemia cell differentiation with no enzyme inhibitory action within the XO system

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Bioactivity-guided fractionation was carried out on flavonoid-positive fractions of *A. squamosa*, a popular fruit tree with known medicinal uses. The chemical purification process yielded an isolate characterized via physical and spectral means, and dereplicated using high-resolution mass spectrometry. When assayed for xanthine oxidase, an enzyme correlated with brain tumors, the compound showed non-inhibition of uric acid product, suggesting inability to act directly as enzyme inhibitor while suppressing the superoxide free radicals of the metabolic pathway. Verification of the compound's identity may find more analogs to positive controls and elucidate the ambivalent role assigned to uric acid as either cause or protector of oxidative burst. Tests conducted on HL60 promyelocytic leukemia cells in culture revealed a strong inducer of differentiation, presenting an alternative approach with less adverse effects usually accredited to chemotherapeutic agents.

P8

Antitumor effect of experimental soybean curd produced from thermally treated soy

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Aim: to find optimal technological modifications of soybean foods for use in nutrition of cancer patients and in preventive nutrition of patients of cancer risk groups.

Results: Two modifications of soybean curd – produced from fresh or thermally treated soy (FS or TS) – were elaborated. Both variants were tested on healthy and Walker W-256 carcinosarcoma or Guerin's carcinoma (GC) bearing rats. The TS curd, if moderately consumed during the term from tumor transplantation to the end of the experiment or the same term + 7–14 days before transplantation, caused growth retardation of W-256 (36–48%) and GC (26%). The same product consumed excessively (ad libitum) accelerated W-256 growth (100%). If the same product consumption started 2 days after W-256 transplantation, tumors growth rate was permanent. FS curd consumption even if it was moderate accelerated W-256 growth (26%). Anticancer effect of TS curd and negative effect of FS curd was found both in perfect in vivo experiments and in express-tests. In all experiments (both positive and negative in anticancer effect) antioxidant and anti-inflammation action of both products were found. So, the results obtained show TS