Polymorphisms in nucleotide and base excision repair genes are associated with the variability in the risk of developing lung cancer. In the present study, we investigated the polymorphisms of following selected DNA repair genes: XPC (Lys939Gln), XPD (Lys751Gln), hOGG1 (Ser326Cys) and XRCC1 (Arg399Gln), and the risks they present towards the development of lung cancer with the emphasis to gender differences within the Slovak population. We analyzed 761 individuals comprising 382 patients with diagnosed lung cancer and 379 healthy controls. Genotypes were determined by polymerase chain reaction/restriction fragment length polymorphism method. We found out statistically significant increased risk for lung cancer development between genders. Female carrying XPC Gln/Gln, XPC Lys/Gln+Gln/Gln and XRCC1 Arg/Gln, XRCC1 Arg/Gln+Gln/Gln genotypes had significantly increased risk of lung cancer. After stratification for genders, the following combinations of genotypes were found to be significant in male: XPD Lys/Gln+XPC Lys/Lys (OR = 1.87; p = 0.03), XRCC1 Arg/Gln+XPC Lys/Lys (OR = 4.52; p = 0.0007), XRCC1 Arg/Gln+XPC Lys/Gln (OR = 5.44; p < 0.0001). In female, different combinations of the following genotypes were found to be significant: XRCC1 Arg/Gln+OGGG1 Ser/Ser (OR = 1.98; p = 0.04), XRCC1 Gln/Gln+OGGG1 Ser/Ser (OR = 3.75; p = 0.02), XRCC1 Arg/Gln+XPC Lys/Gln (OR = 2.40; p = 0.04), XRCC1 Arg/Gln+XPC Gln/Gln (OR = 3.03; p = 0.04). We found out decreased cancer risk in genotype combinations between female patients and healthy controls: XPD Lys/Lys+XPC Lys/Gln (OR = 0.45; p = 0.02), XPD Lys/Gln+XPC Lys/Lys (OR = 0.32; p = 0.005), XPD Lys/Gln+XPC Lys/Gln (OR = 0.48; p = 0.02). Our results did not show any difference between pooled smokers and non-smokers in observed gene polymorphisms in the association to the lung cancer risk. However, gender stratification indicated the possible effect of heterozygous constitution of hOGG1 gene (Ser/Cys) on lung cancer risk in female non-smokers (OR = 0.20; p = 0.01) and heterozygous constitution of XPC gene (Lys/Gln) in male smokers (OR = 2.70; p = 0.01).


Mutation analysis of the epidermal growth factor receptor (EGFR) gene is an essential part of the diagnostic algorithm in patients with metastatic or recurrent non-small cell lung cancer (NSCLC). Small biopsies or cytology specimens represent >80% of the available diagnostic material. EGFR mutation analyses were realized on 835 samples (675 cytology specimens, 151 formalin-fixed paraffin-embedded blocks, 5 tumors, and 4 pleural effusions). EGFR mutation analysis was performed by high-resolution melting analysis in combination with mutant-enriched polymerase chain reaction and sequencing analysis. Because of increased risk of inaccuracy in histology diagnosis of small specimens, all subtypes of NSCLC were analyzed. EGFR mutations were detected in 83 cases (10%). EGFR mutation testing failed in 5% (42/835) and was associated with poor cellularity, low percentage of tumor cells, and bad quality of DNA. Although 281 samples were evaluated as insufficient material (poor cellularity and/or unrepresentative tumor content), mutation rates were 7%. Although only adenocarcinomas or NSCLC-not otherwise specified are recommended for EGFR mutation testing, EGFR mutations in 11% of the large
Results: The patients included in the chart review were followed up from presurgical diagnosis and in each phase of treatment, that is, surgical staging and primary surgery, chemotherapy and chemotheraphy monitoring, follow-up, and palliative care. The 5-year overall cost per patient was €14,100 to €16,300 in Hungary, €14,600 to €15,800 in Poland, €7600 to €8100 in Serbia, and €12,400 to €14,500 in Slovakia. The main components were chemotherapy-associated costs (68%-74% of the total cost), followed by cost of primary treatment with surgery (15%-21%) and palliative care (3%-10%).

Conclusions: Patients with ovarian cancer consume considerable health care resources and incur substantial costs in Central and Eastern Europe. These findings may prove useful for clinicians and decision makers in understanding the economic implications of managing ovarian cancer in Central and Eastern Europe and the need for innovative therapies.

POPDORNÁ LIEČBA

Abstract: Background: Probiotics are live microorganisms, which as drugs or food supplements help to maintain health beneficial microbial balance in the digestive tract of a human or other host. Probiotics by their properties may help strengthen homeostasis and thus reduce side effects associated with cancer treatment. Experimental evidence suggests that probiotics might have beneficial effect on the toxicity of anticaner therapy.

Methods: A computer-based literature search was carried out using PubMed (keywords: probiotic and “lactic acid bacteria” in association with the search terms „cancer” or „oncology” or „chemotherapy” or „radiation”); data reported at international meetings were included.

Results: Probiotics might have beneficial effects on some aspects of toxicity related to anticaner treatment especially radiation therapy. However, reported trials vary in utilized probiotic strains, dose of probiotics and vast majority of them are small trials with substantial risk of bias. Despite limited data, it seems that probiotic bacteria as live microorganisms could be safely administered even in the setting of prolonged neutropenia.

Conclusions: Current evidence supporting probiotic use as adjunctive therapy to anticaner treatment is limited, especially in cancer patients treated with chemotherapy. Well designed clinical trials are needed to find true role of probiotics in oncology.

GASTROINTESTINÁLNE MALIGNITY
Vanda Usakova, Katarina Svecikova, Stanislav Spanik. Surgical treatment of metastases and its impact on prognosis in patients with metastatic colorectal carcinoma. ESMO 15th World Congress on Gastrointestinal Cancer, Barcelona, Spain, 3-6 July 2013 (poster)

Tomas Salek, Zuzana Hlavata, Iveta Andrezalova Vochyanova, Jozef Dolinsky, Jozef Mardiak, Peter Pichna. Capecitabine in combination with radiotherapy as a neoadjuvant treatment in locally advanced rectal cancer: results of a phase II trial ESMO 15th World Congress on Gastrointestinal Cancer, Barcelona, Spain, 3-6 July 2013 (poster)