ISSN 3009-3848
ISSNe 3009-383X

Oncology Insights

Official Journal of the Serbian Association for Cancer Research

SDCR

Year 2023/No. 1

ISSN 3009-3848
ISSNe 3009-383X

ONCOLOGY INSIGHTS

Official Journal of
the Serbian Association for Cancer Research

Belgrade, Serbia
October, 2023

ONCOLOGY INSIGHTS
Official Journal of the Serbian Association for Cancer Research
Publishing annually

Publisher
Serbian Association for Cancer Research
Belgrade, Serbia

Printed by:
Connect Online Studio
Ćirila i Metodija 2a
Belgrade, Serbia

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

616-006-08

ONCOLOGY Insights : official Journal of the Serbian Associaton for Cancer Research / editor in chief Milena Čavić. - [Štampano izd.]. - 2023, no. 1- . - Belgrade : Serbian Associaton for Cancer Research, 2023- (Belgrade : Connect Online Studio). - 30 cm

Godišnje. - Drugo izdanje na drugom medijumu:
Oncology Insights (Online) = ISSN 3009-383X
ISSN 3009-3848 = Oncology Insights (Štampano izd.)
COBISS.SR-ID 125366281

had shorter survival when compared to patients with GPX1*C/C or *C/T genotype (71 vs 90 months; p=0.021). SOD2 gene polymorphism showed no difference in survival across all investigated groups. **Conclusions:** Nrf2 (rs6721961) and GPX1 (rs1050450) gene polymorphisms can be potential predictor factors in certain PC patients' subgroups. Keywords:glutathione peroxidase 1, prostate cancer, regulatory antioxidant protein nuclear factor erythroid 2-related factor 2, single nucleotide polymorphism, superoxide dismutase 2

P16

Expression of long non-coding RNA HOTAIR in rectal cancer as a potential predictor of response to chemoradiotherapy

Katarina Erić[1], Marko Miladinov[2], Sandra Dragičević[3], Jovana Rosić[4], Goran Barišić[2,4], Velimir Marković[2,4], Katarina Zeljić*[5]
[1]*Department of Patohistology, University Clinical Center of Serbia, Belgrade, Serbia*
[2]*Clinic for Digestive Surgery, University Clinical Center of Serbia, Belgrade, Serbia*
[3]*Institute for Molecular Genetics and Genetic Engineering, University of Belgrade, Belgrade, Serbia*
[4]*Faculty of Medicine, University of Belgrade, Belgrade, Serbia*
[5]*Faculty of Biology, University of Belgrade, Belgrade, Serbia*

Background: Patients with locally advanced rectal cancer are mainly treated with chemoradiotherapy (CRT) before surgery. Less than 20% of patients respond completely to neoadjuvant CRT. To avoid unnecessary treatment, biomarkers are being sought to identify patients with rectal cancer who do not respond to therapy. The HOX Transcript Antisense Intergenic RNA (HOTAIR) is a long non-coding trans-acting RNA molecule that is frequently deregulated in cancers of the digestive tract and plays a role in chemoresistance. The aim of this study was to investigate HOTAIR as a potential biomarker for predicting treatment response in patients with rectal cancer. **Methods:** The study group consisted of 14 patients with rectal cancer treated with neoadjuvant CRT. RNA was isolated with TRIzol reagent from samples of rectal cancer and non-tumour tissue before and after therapy. The relative expression of HOTAIR, normalized to GAPDH, was analyzed by qRT-PCR. **Results:** There was no difference in HOTAIR expression level between rectal cancer samples before (0.0017±0.0052) and after CRT (0.0019±0.0059), p>0.05. HOTAIR was significanty upregulated in non-tumour tissue before (0.0039±0.0119) compared to non-tumour tissue after therapy (0.0002±0.0002), p=0.0085. No differences in HOTAIR expression were detected between responders and non-responders in rectal cancer tissue before and after therapy, or in non-tumor tissue before and after CRT, p>0.05. **Conclusion:** Long non-coding HOTAIR cannot be used as a biomarker of response to therapy in patients with rectal cancer.
Keywords: long non-coding RNA, HOTAIR, rectal cancer, therapy reponse

P17

Prognostic potential of redox status, SLFN11, and PD-L1 in colorectal cancer patients

Marko Miladinov[1], Jovana Rosić[2], Katarina Erić[3], Azra Guzonjić[4], Jelenko Jelenković[1], Nataša Bogavac-Stanojević[4], Goran Barišić[1,2], Jelena Kotur-Stevuljević[4]
[1]*Clinic for Digestive Surgery – First Surgical Clinic, University Clinical Center of Serbia, Belgrade, Serbia*
[2]*Faculty of Medicine, University of Belgrade, Belgrade, Serbia*
[3]*Department of Pathology, University Clinical Center of Serbia, Belgrade, Serbia*
[4]*Faculty of Pharmacy, University of Belgrade, Belgrade, Serbia*

Background: Previous studies revealed that oxidative stress, implicated in various diseases, may be an essential progenitor in carcinogenesis, including colorectal cancer (CRC). Excessive generation of free radicals, redox imbalance, and consequential DNA damage can affect intestinal cell homeostasis and lead to neoplastic transformation. Schlafen 11 (SLFN11) protein recently emerged as pivotal in DNA damage conditions, with predictive potential for tumor response to cytotoxic chemotherapies, particularly DNA-damaging agents. Additionally, recent discoveries showed that the Programmed death ligand 1 (PD-L1) protein can be found on malignant cells, providing an immune evasion mechanism exploited by different tumors. Therefore, our study aimed to investigate the significance of redox status parameters, SLFN11, and PD-L1 proteins as prognostic biomarkers in patients with CRC. **Patients and Methods:** In this study, we included 130 CRC patients and compared all measured and calculated parameters between patients who died and those who survived during the one-year follow-up. We investigated the following redox status parameters: