CLINICAL SIGNIFICANCE OF HISTOCHEMICAL EXPRESSION OF MUCINS IN COLORECTAL ADENOCARCINOMA

Nina S. Jančić¹, Janko T. Žujović², Ivan B. Rančić¹, Miljan S. Krstić³, Filip C. Vukmirović⁴, Velimir S. Milošević⁵

¹University of Niš, Faculty of Medicine Niš Serbia
²Center for Abdominal Surgery, Clinical Center of Montenegro, Podgorica, Montenegro
³University of Niš, Faculty of Medicine, Department of Pathology, Niš, Serbia
⁴Department of Pathology Clinical Center of Montenegro, Podgorica, Montenegro
⁵Department of Gastroenterology and Hepatology, Clinical Center of Montenegro, Podgorica, Montenegro

Contact: Velimir S. Milošević
Ljubljanska Street 1, 20000 Podgorica, Montenegro
E-mail: vejja@t-com.me

Colorectal carcinoma is the most common malignant tumor of the gastrointestinal tract. In the course of colorectal carcinogenesis, in addition to uncontrolled cell proliferation and accelerated angiogenesis, alterations occur in the structure and/or quantity of epithelial mucins, so the aim of our study was to investigate the histochemical expression of mucins in relation to the clinical characteristics of colorectal carcinoma.

The biopsy material of 75 patients operated from colorectal carcinoma, which was routinely processed and molded into paraffin, was used for the examination. On 3-4 μm thick cuts, routine H&E and histochemical AB-PAS pH 2.5 and HID-AB methods were applied. For the statistical analysis, the statistical software package SPSS (version 13) was used.

Mucin alterations occur in colorectal carcinoma and manifest themselves as a trace to moderate secretions of neutral or fucomucins, moderate to hypersecretions of sialomucins and trace to complete secretions of sulfomucins. The fucomucin and sialomucin secretion is associated with a strong, significant and positive coefficient of correlation with the Astler-Coller classification of the tumor stages, with metastases in the lymph nodes and with distant metastases. Unlike fucomucins, sialomucins are associated with a strong, positive, significant coefficient of correlation with the pathological stage of the tumor. Sulfomucins are associated with the significant, but negative coefficients of correlation with the tumor pathological stage, tumor stages according to the Astler-Coller classification, and metastases in the lymph nodes. The secretions of fucomucins and sialomucins are in a good and significant mutual relationship, only the secretion of sulfomucins is in a negative correlation in comparison to the other mucins.

Histochemical expression of mucins may be a useful prognostic indicator of the progression of colorectal carcinoma.


Key words: colorectal carcinoma, epithelial mucins, histochemistry