

## **Oncology of the chest**

### **UGT8 expression in primary non-small cell lung cancer and its lung metastases - preliminary study**

\*A. Rzechonek<sup>1</sup>, P. Błasiak<sup>1,2</sup>, M. Majchrzak<sup>1,2</sup>, J. Grzegorzka<sup>3</sup>, V. Bobek<sup>3,4</sup>, B. Muszczynska<sup>3,5</sup>, M. Cygan<sup>6</sup>, P. Dziegel<sup>7</sup>

<sup>1</sup>Medical University Wrocław, Thoraxsurgery (Wrocław, Poland)

<sup>2</sup>Lower Silesian Pulmonary Disease Center, Thoracosurgery (Wrocław, Poland)

<sup>3</sup>Wrocław Medical University, Department of Histology and Embryology (Wrocław, Poland)

<sup>4</sup>Charles University Prague, Department of Tumor Biology (Prague, Czech Republic)

<sup>5</sup>Lower Silesian Centre of Lung Diseases, Department of Pathology (Wrocław, Poland)

<sup>6</sup>Krajská zdravotní, a.s., Ústí nad Labem, Department of Pathology (Ústí nad Labem, Czech Republic)

<sup>7</sup>Medical University Wrocław, Department of Histology and Embryology (Wrocław, Poland)

UGT8 protein (galactoso-ceramidotransferase) is an enzyme that regulates the synthesis of sphingolipids in myelin sheath of the neurons in the peripheral and central nervous system.

Increased activity of this enzyme was also observed in testicles, kidneys and organs of the gastrointestinal tract. It was more highly expressed in astrocytomas, oligodendrogliomas, and carcinomas of breast and prostate. It was also shown, that the expression level of UGT8 positively correlated with increased risk of metastases of primary breast cancer to the lungs.

Purpose: The aim of the study was to analyze the location and intensity of expression UGT8 in non-small cell lung cancer and its metastases to the lungs.

Materials and methods: We have analyzed tissue obtained from 19 patients diagnosed with non-small cell lung cancer. The first samples were collected during the initial resection of primary lung tumors, and next samples at the time of reoperation due to metastases to the lungs. UGT8 expression analysis was performed using immunohistochemical techniques, and preparations were evaluated in an optical microscope. The results were subjected to statistical analysis based on available clinical and pathological data of the patients.

Results: A positive correlation between the expression UGT8 in primary tumors and metastatic small cell lung cancer was observed ( $r = 0.478$ ,  $p$

Conclusions: The correlation between UGT8 expression in primary tumors and in metastases indicates potential involvement of UGT8 in formation of the metastatic lung cancer. Statistically insignificant results, in relation to clinicopathological data, suggest the inability of usage UGT8 as predictive and prognostic marker in lung cancer.