

CZECH ANATOMICAL SOCIETY
CZECH SOCIETY FOR HISTO-
AND CYTOCHEMISTRY
CHARLES UNIVERSITY IN PRAGUE
FIRST FACULTY OF MEDICINE



MORPHOLOGY

2011

PROGRAMME
ABSTRACTS

PRAGUE, SEPTEMBER 4 - 7, 2011

Analysis of expression of drug resistance proteins in non-small cell lung cancer in relation to prognosis

Rybárová S¹, Hodorová I¹, Vecanová J¹, Muri J²

¹Dept. of Anatomy, P.J. Šafárik University, Faculty of Medicine, Šrobárova 2, Košice, SK

²National Institute for Tuberculosis, Lung Diseases and Thoracic Surgery, Vyšné Hágy, SK

silvia.rybarova@upjs.sk

We detected p53 and XRCC1 protein expression in 54 samples of NSCLC (non-small cell lung cancer). For detection of monitored proteins the immunohistochemical method was used. Tissue samples were divided according to type of tumor. Next we compared our results with basic clinicopathological parameters. Statistically significant correlation was found between type and p53 expression ($p < 0.05$). Comparing the p53 expression with grade resulted in strong positive correlation, $p < 0.05$ ($R^2 = 0.9223$). The percentage of p53 positive tumors increased from 0% in grade 1 to 75% in grade 4, respectively. No correlation in p53 expression and tumor stage was found. In case of XRCC1 the highest level was found in squamous cell type, where 71% of samples were positive. In case of large cell type it was 67% and in adenocarcinoma 52% samples showed XRCC1 immunoreactivity. We did not find significant correlations between type, grade and early stage of NSCLC and expression of XRCC1 protein profile without neoadjuvant therapy.

We found significant statistical correlation between expression of p53 and type of tumor. It is possible that stabilized p53 protein plays an important role in squamous and large cell types development. Our findings also suggest that p53 expression cumulates with dedifferentiation of cancer cells. Expression of XRCC1 is probably not fixed and could be changed by the status of cancer cells and in relation to therapy. The relevant data about pre- versus post- chemotherapy and XRCC1 expression are needed to evaluate the influence of XRCC1 to drug resistance.

The work was partially supported by: Vega grant 1/0925/11, Ministry of Education, and by Agency of Slovak Ministry of Education for Structural Funds of EU, project ITMS: 26220120058. (30%)"