

## SMOKING HABITS AND CADMIUM AS BIOMARKER AMONG LUNG CANCER FEMALE PATIENTS IN VOJVODINA

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### Introduction

Lung cancer is the second most common cancer (after breast cancer) in women and by far the leading cause of cancer death. According to the American Cancer Society there is chance of 1 in 17 women to be affected by lung cancer in their lifetime, with higher risk for the smokers.

### Experimental

In this study 21 women (44-83 years old) with inoperable IIIB and IV stadium of lung carcinoma, diagnosed in the Institute for Pulmonary Diseases of Vojvodina, Serbia were enrolled. All the women were asked to fulfil a questionnaire regarding their smoking habits. Their morning urine samples were collected and analysed by ICP-MS for the presence of cadmium (Cd) in the urine samples.

### Results and discussion

More than half of the patients, 52.38% (11/21) enrolled in this study were diagnosed with adenocarcinoma, 23.81% (5/21) had squamous lung carcinoma while 14.28% (3/21) were discovered to have neuroendocrine lung carcinoma and 9.52% (2/21) were identified with small cell lung carcinoma. All of them were or still are heavy smokers who had or have been smoking cigarettes actively on daily basis. They had started to smoke on average at the age of 20 years (the youngest at the age of 12), and have been smoking for almost 41 year on average (15-56 years of smoking experience). Out of nine who have reported that had stopped smoking, only three had quitted smoking for 1 year or longer. Most of them 85.71% (18/21) origin from a family with smokers. On average, they had or have been smoking approximately a pack of cigarettes (18.8 cigarettes a day). In this study Cd was detected in 80.95% (17/21) of samples. All women with neuroendocrine lung carcinoma and small cell lung carcinoma had Cd in their morning urine samples.

### Conclusion

To the best of authors knowledge such study has not been performed in Western Balkan Region. The obtained results confirmed that Cd is omnipresent in urine of women with lung cancer and that exposure to Cd is associated with smoking.

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