these levels were statistically lower than those observed in NSCLC patients. Moreover, there were no statistical differences between the levels of circulating caspase-4 in smokers younger or older than 60 years. Similarly, no gender differences were noted. Similarly, COPD patients, who are smokers and former smokers, had higher levels of circulating caspase-4 (95% CI, 1.703-2.995 ng/ml). According to $\chi 2$ test, the expected frequency of smokers, positive to the circulating caspase-4, who could develop NSCLC is robustly significant (calculated $\chi 2=82.884$ vs tabulated $\chi 2=3.845$, df = 1). Moreover, according to the independence test, smoker who were positive to the circulating caspase-4 are at high risk to develop NSCLC.

Conclusions: In conclusion, we report for the first time that the circulating caspase-4 could represent a predictive diagnostic tool to avoid the occurrence of NSCLC.

| 115P | **Smokers and COPD patients have high circulating caspase-4 levels: Is it an alarm?** |

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Background: Lung cancer is the leading cancer-related death disease worldwide. This alerting data is mainly due to late diagnosis of lung cancer, especially non-small cell-lung cancer (NSCLC), limiting the therapeutic options. Therefore, the identification of non-invasive, selective, sensitive and specific biomarker/s represents the emerging medical need for the clinical practice to avoid late diagnosis and ameliorate the personalized therapy with an ensuing higher survival rate. It is well known that smoking and chronic obstructive pulmonary disease represent two high risk factors for NSCLC. Therefore, in this study we aimed to evaluate the levels of a novel diagnostic tool for NSCLC patients in order to understand whether caspase-4 could represent a predictive biomarker.

Methods: In order to evaluate the circulating caspase-4 in the blood, we developed an ELISA test.

Results: Smokers (≥ 15 cigarettes/day) had higher levels of circulating caspase-4 (95% CI, 1.331-1.94 ng/ml) than healthy subjects (95% CI, 0.395-0.619 ng/ml). Though,