CRP May Predict Lung Cancer Risk in Smokers

Elevated levels of the inflammatory marker C-reactive protein (CRP) may greatly assist in identifying smokers who have abnormal airway lesions that are likely to progress to lung cancer, according to a recent report from the British Columbia Cancer Agency.*

Chronic inflammation is implicated in the development of precancerous and cancerous lesions of the airways and lungs. Until now, however, it has been unclear whether circulating biomarkers of inflammation could predict when abnormal airway lesions are likely to progress to more advanced stages.

At the study's onset, the Canadian team measured CRP levels in 65 former and current smokers, all of whom had at least one site of bronchial dysplasia. Marked by abnormal cell growth in the bronchial tubes, bronchial dysplasia may be a precursor of squamous cell lung carcinoma.

Six months later, the research team measured CRP levels and conducted repeat bronchial biopsies to assess for progressive dysplasia, defined as areas of dysplasia that had worsened by two grades of development or development of new lesions. In the one half of study participants who developed progressive dysplastic lesions after six months, baseline CRP levels were 64% higher than in those without progressive disease. Only one of eight participants with a baseline CRP level of less than 0.5 mg/L developed progressive dysplasia, while 31 of 57 participants with CRP levels greater than or equal to 0.5 mg/L developed progressive disease. Thus, people with higher CRP levels were nearly 10 times more likely to develop progressive disease than those with lower levels.

According to the research team, plasma CRP "appears to have excellent predictive powers in identifying participants with bronchial dysplastic lesions whose lesions progress to more advanced stages of dysplasia." The investigators noted that further studies are needed to assess exactly how CRP influences the pathogenesis of lung cancer.

—Elizabeth Wagner, ND

Reference