These 3 Common Meds May Reduce Lung Cancer Risk

Taking a combination of statins, metformin and aspirin may mean less lung cancer.

October 12, 2020 By Caroline Tien

The term “triple threat” has gained a new meaning thanks to medical research suggesting that a specific combination of common prescription medications may help prevent the most common cause of cancer deaths in men and women—lung cancer.

The three medications in question are some of the most commonly prescribed drugs in the United States and throughout the world: statins, aspirin and metformin. Statins lower cholesterol, helping to prevent heart disease; aspirin not only reduces pain and inflammation but may also prevent some heart attacks; and metformin treats diabetes by reducing blood sugar levels.

A study published in the Journal of Thoracic Oncology found combined use of these drugs was associated with a reduction in lung cancer risk and mortality.

Dong Wook Shin, MD, DrPH, MBA, and two colleagues, all of Sungkyunkwan University School of Medicine in South Korea, categorized 732,199 South Korean participants based on their intake of statins, aspirin and metformin.

Shin and colleagues followed the participants from 2004 to 2013. Those taking all three medications were diagnosed with and died of lung cancer at a lower rate than the participants who were not doing so. While those who took one or two of the medications had a reduced risk for lung cancer, those who took all three were significantly more protected against the malignancy. What’s more, the association between combined statin, aspirin and metformin use and reduction in lung cancer risk increased with the duration of use of the combination of the three medications.

Each of these drugs has been associated with cancer prevention and reduced cancer mortality in previous studies, and some evidence has suggested that the combination’s effect may be greater than the sum of its parts. Statins and metformin, taken together, for example, have been linked to better outcomes for men with prostate cancer. But research on the ability of the trio to prevent lung cancer has never been undertaken before.

“To our knowledge, no study has evaluated aspirin, statins, and metformin use and their combined impact on lung cancer incidence and mortality,” Shin said.

When used in combination, these three drugs may block off “multiple pathways related to lung cancer cell growth and proliferation,” thus “resulting in favorable associations with lung cancer risk and mortality,” Shin said in a press release for the study. For example, he said, “aspirin and metformin synergistically inhibit lung cancer cell proliferation” by activating the AMP-activated protein kinase pathway, which is known to play a role in cancer cell regulation.

The researchers do not recommend that people who do not need these medications for their intended purposes begin taking them, but they argue that further research should be conducted to determine whether taking them may be beneficial for lung cancer prevention. Lung cancer is projected to kill 130,000 Americans in 2020, and one fourth of all lung cancers are diagnosed in people who show no symptoms, statistics that highlight the importance of developing safe and effective preventive treatments.

To dispel any misconceptions you may have about lung cancer, click here. To read about one woman’s experience of having late-stage lung cancer, click here. And, to read about racial and class disparities in lung cancer diagnosis rates, click here and here.

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