

# Green Tea May Lower Lung Ca Risk in Smokers

BY SUSAN LONDON

CORONADO, CALIF. — Current and former smokers who do not drink any green tea are nearly 13 times more likely to develop lung cancer than are their counterparts who consume at least one cup daily, according to a study conducted in Taiwan.

“Our results suggest that green tea consumption inhibits the lung cancer risk elicited by smoking,” lead investigator I-Hsin Lin said in an interview. “So we suggest that smokers should drink more than one cup a day.”

Regardless of the participants’ smoking status, the study also found that green tea intake was associated with a lower risk of lung cancer among indi-



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MS. LIN

viduals who had insulinlike growth factor (IGF) genotypes that reduce levels of this protein.

Tea polyphenols have antioxidant activity, and data from previous studies suggest that some preparations inhibit the development of tumors—including lung tumors. In addition, IGFs and their binding proteins influence cell proliferation, differentiation, and apoptosis, noted Ms. Lin, a graduate student at Chung Shan Medical University in Taichung City, Taiwan.

In the hospital-based, case-control study, the investigators identified 170 patients with primary lung cancer and matched them in a 1:2 ratio with 340 healthy control individuals according to age and sex.

All participants completed questionnaires on demographics and lifestyle factors, including cigarette smoking, green tea consumption, dietary intake of fruits and vegetables, cooking practices, and family history of lung cancer, according to Ms. Lin’s poster, which was presented at a joint conference of the American Association for Cancer Research and the International Association for the Study of Lung Cancer.

Genotypes for three IGF-related polymorphisms that influence IGF levels and cancer risk were assessed by polymerase chain reaction.

Some 60% of study participants were male, and 71% were aged 60 years or older; 54% of the lung cancer group and 27% of the control group were current or former smokers. Of the lung cancer group, 4% drank at least one cup of green tea daily, compared with 19% of the control group.

In a multivariate analysis, current and former smokers who did not drink any green tea had almost 13 times the risk of developing lung cancer (odds ratio, 12.7;

$P$  less than .001), compared with current and former smokers who drank at least one cup of green tea daily.

In contrast, higher green tea consumption was not significantly associated with lower lung cancer risk in never-smokers.

Among green tea drinkers, those carrying the nonsusceptible genotypes IGF-1 (CA)<sub>19</sub>/(CA)<sub>19</sub> and (CA)<sub>19</sub>/X had a significantly lower risk of developing lung

cancer, compared with those carrying the IGF-1 X/X genotype. This finding suggests that green tea may have a greater protective effect among individuals who already have reduced cancer risk because of their genetic makeup, Ms. Lin said.

“Green tea polyphenols may decrease lung cancer risk by decreasing IGF-1 levels in the body,” Ms. Lin speculated.

Ms. Lin acknowledged several limita-

tions of her study, including the fact that recall bias regarding smoking habits and green tea consumption could have been a problem.

A selection bias also may have occurred, with generally healthy people choosing to enroll in the study as controls. ■

**Disclosures:** Ms. Lin reported that she did not have any conflicts of interest.

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<sup>1</sup>Including diet, exercise, and other diabetes medications.

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US.GLA.09.10.152