International Agency for Research on Cancer

World Health Organization

PRESS RELEASE
N° 300

27 July 2021

Quitting smoking after diagnosis of lung cancer improves survival and reduces the risk of disease progression

Lyon, France, 27 July 2021 – A new prospective study of more than 500 adults who were current smokers when diagnosed with lung cancer, published today in the *Annals of Internal Medicine*,[1] provides robust evidence indicating that quitting smoking after diagnosis of lung cancer is associated with significant improvement in overall survival and disease-free survival among these patients.

This report is based on a 15-year collaborative study between the International Agency for Research on Cancer (IARC) and the N.N. Blokhin National Medical Research Centre of Oncology of the Russian Academy of Medical Sciences. This study recruited 517 patients with newly diagnosed non-small cell lung cancer who were current smokers, from the departments of thoracic surgery at two sites in Moscow, Russian Federation, and followed them up annually for an average of 7 years to record any changes in their smoking behaviour and disease status.

“About 42% of the patients (220 participants) in this study quit smoking during the follow-up period. Most of these patients quit smoking within the first 3 months after diagnosis and remained non-smokers until the end of the follow-up time. Patients who quit smoking lived an average of 22 months longer overall and without recurrence of their disease than those who continued smoking,” says Dr Mahdi Sheikh, a scientist in the Genomic Epidemiology Branch at IARC and the lead author of the study. Dr Sheikh adds, “After accounting for differences in the timing of when patients quit, tumour characteristics, and the treatments received, we found that patients who quit smoking have a 33% lower risk of dying from any cause and a 30% lower risk of progression of the disease.”

The researchers assessed whether the beneficial effects of smoking cessation could differ on the basis of tumour stage at diagnosis and lifetime smoking intensity. They found that the protective effect of smoking cessation was evident across all subgroups of patients, including those with earlier- and later-stage tumours, and among mild to moderate smokers and heavy smokers.

“The study has shown that quitting smoking after lung cancer diagnosis overwhelmingly surpasses the definition of a ‘meaningful benefit’ as proposed by the American Society of Clinical Oncology (ASCO) for assessing the benefits of cancer therapeutics. Moreover, the benefits from quitting smoking are comparable or even superior to those recorded in the clinical trials for most advanced cancer treatments, such as immune checkpoint inhibitors,” says Professor David Zaridze, head of the Department of

[1] Sheikh M, Mukeriya A, Shangina O, Brennan P, Zaridze D. Postdiagnosis smoking cessation and reduced risk for lung cancer progression and mortality: a prospective cohort study. *Ann Intern Med*. Published online 27 July 2021. https://doi.org/10.7326/M21-0252

Quitting smoking after diagnosis of lung cancer improves survival and reduces the risk of disease progression

Epidemiology and Prevention at the N.N. Blokhin National Medical Research Centre of Oncology (Russian Federation), president of the Russian Cancer Society, and the senior author of the study. He adds, “Although evidence of the negative effect of smoking after cancer diagnosis on disease outcome has been shown nearly three decades ago, it is largely ignored, not only in clinical practice but also in clinical trials. Publication of this manuscript in a clinically oriented and widely read journal gives hope that it will have a sizeable impact on clinical practice and on the design of future research.”

“At the time of lung cancer diagnosis, patients may feel discouraged to quit smoking as they might think it is too late and there is no point in quitting smoking because they have already been diagnosed with cancer. These new results strongly suggest that patients with lung cancer who smoke should be encouraged to stop smoking at any time and at each visit after diagnosis, regardless of their tumour stage, treatment status, or smoking intensity,” says Dr Paul Brennan, head of the Genomic Epidemiology Branch at IARC and the study’s principal investigator. “These promising results emphasize the requirement for collaborative efforts at different levels of policy-making and health-care settings, to promote and implement smoking cessation programmes in cancer care settings.”

For more information, please contact

Véronique Terrasse, Communications Group, at +33 (0)4 72 73 83 66 or terrassev@iarc.fr
or IARC Communications, at com@iarc.fr

The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release e-mailing list, please write to com@iarc.fr.