

Food-drug interactions could be impactful for some lung cancer patients, according to new study

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New research in the June 2023 issue of *Journal of the National Comprehensive Cancer Network* has found that when alectinib—a safe

and effective small molecule kinase inhibitor used to treat some types of advanced lung cancer—was taken with a fuller breakfast, or with lunch, it resulted in significantly higher drug concentrations than when taken with a low-fat breakfast. The researchers, based in Rotterdam, The Netherlands, evaluated 20 randomized patients who took one of two daily alectinib doses with either low-fat yogurt alone, a full continental breakfast, or a lunch of their choosing. Taking alectinib with low-fat yogurt resulted in 14% less exposure than in the continental breakfast group, and 20% less than in those who took the medication with lunch.

"This is important information for patients, since we know that higher alectinib concentrations in blood could result in more efficacy of the drug, a longer treatment duration and therefore, hopefully, a better survival," said lead researcher Daan A.C. Lanser, MSc, Department of Medical Oncology, Erasmus Cancer Institute, Erasmus University Medical Center. "Sometimes, we hear that patients are advised to take their twice daily alectinib strictly 12 hours apart, with the result that some patients will take it with just a small snack in the morning or evening. We believe that taking it with a substantial meal containing enough fat is far more important for the [absorption](#) and efficacy of the treatment than to wait 12 hours between doses."

The relative differences in alectinib plasma concentrations were measured 12 hours after the last dose. The researchers also studied the number and severity of side effects—and found no significant differences between the three groups, which were low overall.

"This important study highlights the key role of diet on the efficacy of oral cancer drugs," commented Sandip Patel, MD, Professor in the Department of Medicine at University of California San Diego School of Medicine and Medical Oncologist at Moores Cancer Center at UC San Diego Health, who was not involved in this research. "Medication-diet interactions are just as important as medication-medication

interactions for oral cancer treatments."

Dr. Patel, a Member of the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines) Panel for Non-Small Cell Lung Cancer, continued, "Alectinib is a standard-of-care oral small molecule inhibitor for patients with ALK-rearranged metastatic non-small cell [lung cancer](#). Maintaining therapeutic doses long-term is key to this drug's activity. In this study, the effect of taking a dose of alectinib with a small, low-fat snack resulted in more than a third of patients not reaching the goal alectinib [drug concentration](#) in blood, which highlights the need for education and dietary modification for patients taking these drugs long term."

More information: Influence of Food With Different Fat Concentrations on Alectinib Exposure: A Randomized Crossover Pharmacokinetic Trial, *Journal of the National Comprehensive Cancer Network* (2023). [DOI: 10.6004/jnccn.2023.7017](https://doi.org/10.6004/jnccn.2023.7017)

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