Re: Lung Cancer: Another Consequence of a High-Fat Diet?

More than 17000 new cases of lung cancer occur among nonsmoking men and women each year in the United States, and the overwhelming majority of these patient cases will die within 5 years of diagnosis. It would appear to us that the etiology of lung cancer in nonsmokers is, therefore, an important public health issue and a legitimate topic for scientific inquiry as noted in our article (1). Dr. Kolonel's editorial states (2), "there is sufficient reason to continue the search for other causal factors for this major cancer (lung cancer)," but then suggests that we may be playing into the hands of the tobacco industry by identifying factors other than smoking that cause lung cancer and that there is already sufficient public health consensus to lower the average fat level in the American diet.

The fact that between 80%-90% of all lung cancer cases result from smoking cigarettes is indisputable, as we point out in our article (1). Moreover, we show that even among long-term ex-smokers (>15 years of smoking cessation), there is a twofold excess risk of lung cancer attributable to smoking. In an earlier report (3), on this same group of women, we found among nonsmokers a significant excess risk of lung cancer from heavy exposure to environmental tobacco smoke.

In an observational science such as epidemiology, it is especially important to proceed cautiously in the interpretation of new findings and to explore alternative explanations. Dr. Kolonel (2) suggests the possible role of cooking red meats at high temperatures, resulting in the formation of carcinogenic heterocyclic aromatic amines. This is an intriguing hypothesis that deserves further investigation, but in our study, the excess risk of lung cancer associated with red meat consumption was much smaller than the risk associated with saturated fat or total fat intake. Risks were associated also with the intake of high-fat dairy products (e.g., ice cream, cream, whole milk, and cheeses and cheese spreads) that have no appreciable levels of heterocyclic amines.

Dr. Kolonel correctly points out that when variables such as total fat, saturated fat, and cholesterol are highly collinear, it is difficult to disentangle the individual effects. For this reason, we used standard state-of-the-art methods in an effort to distinguish specific dietary components while emphasizing the strengths and limitations of the data presented. We concluded our article by stating that "While our results support the public health admonition to reduce fat and saturated fat consumption, additional etiologic studies [of lung cancer] are needed before we can fully understand the nature of this association." We stand by this conclusion.

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