

Prolonged Survival in Lung Cancer Patients with Diabetes Mellitus

In Response:

We appreciate your interest in our article published in the *Journal of Thoracic Oncology*¹ and thank you for the opportunity to answer your questions.

In our article, we analyzed the influence of diabetes mellitus on the survival of patients with lung cancer. We found that lung cancer patients with diabetes mellitus had a longer survival compared with patients without diabetes mellitus. The mean age at baseline in the Nord-Trøndelag Health Study (HUNT) for patients with lung cancer was 59 years, and 4.5% among these had self-reported diabetes mellitus. Similar prevalence has been reported in other studies for comparable age groups,² and these estimates are also in line with the prevalence in the total HUNT study population at this age.^{3,4} The mean age at the time of diagnoses of lung cancer was 70 years.

In the HUNT study, diabetes mellitus was defined by the answer “yes” to the question “Do you have or have you had diabetes?” independent of whether or not the person used medication for diabetes mellitus. Self-reported diabetes mellitus is a widely accepted and used tool in epidemiological studies.⁵ The question on self-reported diagnosis has also been validated in the HUNT study population.⁶ We therefore believe that our definition of the variable “diabetes mellitus” can be used in the current setting.

Dr. Satoh is of course right regarding change in the treatment of diabetes mellitus in the last decades. We agree that information on whether patients

had diabetes mellitus or not, closer to or at the time of diagnosis would have improved our study and reduced misclassification. This would, however, reduce nondifferential misclassification, and this should rather strengthen than weaken the report on associations.

All participants in the HUNT study are identified with an eleven-digit national identification number that all Norwegians are given at birth or immigration. All data regarding HUNT participants are linked by this key, and no duplicate data set are present in the HUNT database.

Diabetes mellitus was no exclusion criteria in the pemetrexed-gemcitabine study or in the *Norwegian Lung Cancer Biobank* (Norwegian Lung Cancer Biobank study, and the prevalence of diabetes mellitus was 3.9% (mean age 64 years) and 8.1% (mean age 68 years), respectively. Therefore, we have no indication of diabetes mellitus being the cause of any selection bias in the PEG or NLCB study. In these studies, we used the medical journal to identify whether patients had diabetes mellitus or not.

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To the Editor:

We read with interest the recent article by Hatlen et al. (November 2011)¹ regarding survival in lung cancer patients with diabetes mellitus. As can be seen from the title of our article² in the Reference section of Hatlen et al.'s article, we have a strong interest in this issue. We can understand the results of this study, but we cannot accept the hypothesis that lung cancer patients with diabetes mellitus have an increased survival rate compared with those without. Although the study reported by Hatlen et al. in the article had a large sample size, only 84 of 1852 patients (4.5%) had diabetes mellitus; so this ratio was apparently lower than the prevalence of diabetes mellitus in developed countries.³ In their study, patients with diabetes mellitus were defined as those who answered that they had diabetes mellitus and those who used medication for the same. We would like to know from the authors about whether that was appropriate. Two-thirds of their patients were participants in the Nord-Trøndelag Health Study (HUNT), a population-based prospective cohort study started in 1984. However, median survivals of the patients with diabetes mellitus in the HUNT study were very short (8 and 6 months); this contrasts with the median survivals in the present-day situation, as treatments for diabetes mellitus have progressed a lot during the last two decades. Therefore, we wonder whether the study included old data. Because the periods of the Nord-Trøndelag

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Health Study (HUNT), a population-based prospective cohort study started in 1984. However, median survivals of the patients with diabetes mellitus in the HUNT study were very short (8 and 6 months); this contrasts with the median survivals in the present-day situation, as treatments for diabetes mellitus have progressed a lot during the last two decades. Therefore, we wonder whether the study included old data. Because the periods of the Nord-Trøndelag Health, Pemetrexed Gemcitabine, and Norwegian Lung Cancer Biobank studies overlapped, we would also like to know whether some participants were commonly present in these different studies at the same time. As two studies, Pemetrexed Gemcitabine and Norwegian Lung Cancer Biobank studies, were clinical trials, we would appreciate knowing the authors' comments on the selection bias of patients with very mild diabetic status. At present, we suppose that their hypothesis may not be conclusive because they relied on data with some inadequacies.

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