Comment on: Need for Differentiating Diabetes-Specific Mortality from Total Mortality when Comparing Metformin with Insulin Regarding Cancer Survival

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TO THE EDITORS

In our study,¹ the association between metformin and all-cause mortality in patients undergoing surgery for colorectal cancer was examined. The overall survival was increased in the metformin-treated group compared with the insulin group. Here we address the issue of whether it remains unclear whether the findings are due to the anti-tumor role of metformin or lower prevalence of severe diabetes complications, and whether there is a need to differentiate diabetes-specific mortality from total mortality.

We chose the insulin-treated group as the reference group even though the insulin users, when compared with the metformin users, more often had diabetes with complications. However, even after adjusting for clinically relevant factors including the severity of diabetes, the findings did not change. Generally, patients with insulin-treated diabetes tend to have more severe diabetes and of longer duration, both of which are associated with increased risk of colorectal cancer but not increased cancer-specific mortality.² From the data provided by our study it is not possible to state whether the increased

mortality among insulin users is due to cancer- or non-cancer-related causes. However, our study could suggest that there may be an antineoplastic effect of metformin treatment, although no suggestions regarding mechanisms can be made. Previous studies reported that patients with colorectal cancer and metformin-treated diabetes may be more sensitive to chemotherapy³ and radiotherapy,⁴ which could influence mortality as well as the risk of recurrence and the disease-free survival.

REFERENCES

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