

GASTRIC CANCER

Metformin improves survival and recurrence rate in patients with diabetes and gastric cancer

Use of metformin after a gastrectomy in patients with gastric cancer and type 2 diabetes mellitus (T2DM) seems to improve survival, according to the results of a study published in *Annals of Surgery*.

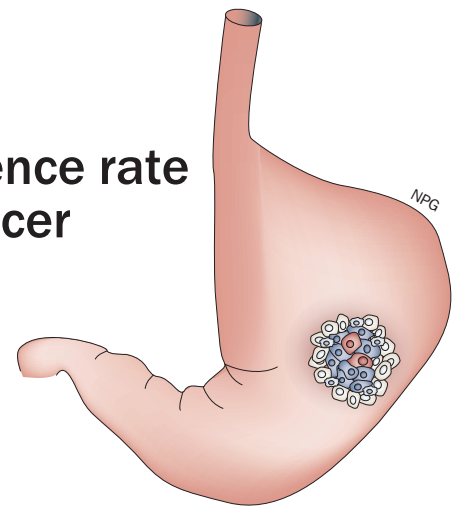
Gastric cancer is one of the leading causes of cancer-related deaths and has a high risk of recurrence. Population studies have shown that metformin reduces cancer mortality in patients with T2DM, and preclinical studies have revealed that metformin inhibits cancer cell growth. However, the influence of metformin in patients with T2DM and gastric cancer is unclear.

“We hypothesized that metformin use might reduce cancer recurrence and/or mortality after curative gastrectomy in gastric cancer patients with T2DM,” write the authors. To investigate this hypothesis, they retrospectively analysed data from 1,974 patients from Yonsei Cancer Center, Seoul, South Korea, who underwent a gastrectomy for gastric cancer. Of these

patients, 132 had T2DM and were receiving metformin and 194 had T2DM but were not taking metformin.

After a median follow-up of 6.2 years, it was found that overall, patients without T2DM had better recurrence-free survival, cancer-specific survival and overall survival than patients with T2DM. However, patients with T2DM who were using metformin had survival levels similar to patients without T2DM, indicating that metformin has a beneficial effect on survival in patients with gastric cancer and T2DM. As insulin can promote cancer growth, they also compared survival in patients taking metformin but not insulin and those not taking either drug; the trend towards increased survival with metformin use was maintained. Furthermore, the researchers found that the risk of recurrence and death decreased with each cumulative 6 months of metformin use.

The authors suggest that, in accordance with current guidelines, patients with



T2DM and gastric cancer should be prescribed metformin as the first-line therapy for T2DM. It is unclear whether metformin would have similar beneficial effects in patients with gastric cancer but not T2DM, so the authors write that “further prospective studies to evaluate metformin’s role as adjuvant therapy in gastric cancer are needed”.

Claire Greenhill

Original article Lee, C. K. *et al.* Cumulative metformin use and its impact on survival in gastric cancer patients after gastrectomy. *Ann. Surg.* doi:10.1097/SLA.0000000000001086