

SGLT2 Inhibitors Slow Growth and Reduce Surgeries for In Situ Pulmonary Adenocarcinoma in Diabetic Patients

Glenview, IL – Researchers found that a class of FDA-approved antidiabetic medications, sodium-glucose cotransporter 2 inhibitors (SGLT2-i), may slow the growth of early-stage lung cancer and reduce the need for surgery in patients with in situ pulmonary adenocarcinoma.

In situ and early-stage pulmonary adenocarcinomas represent a rapidly growing subset of lung cancers, often detected incidentally on CT scans as ground-glass opacities or small pulmonary nodules. While these lesions are commonly managed with surveillance, many ultimately progress to requiring surgery. Emerging evidence indicates that the SGLT2-i contributes to the development of early adenocarcinoma. Investigators hypothesized that treatment with SGLT2-i could slow tumor growth and reduce the need for surgical interventions in patients with early-stage pulmonary malignancies.

A retrospective analysis identified adult diabetic patients with lung nodules documented on at least two serial CT scans between 2014 and 2024. Among these, patients prescribed an SGLT2-i were compared with those receiving alternative antidiabetic medications.

Results showed that mean hemoglobin A1c (HbA1c) was slightly higher in patients who were prescribed an SGLT2-i compared with an alternative diabetic medication (7.7 vs 7.1, $p < 0.01$). There was a similar mean duration of surveillance for patients taking an SGLT2-i and those taking alternative diabetic medications ($p = 0.13$). Patients prescribed an SGLT2-i were significantly less likely to exhibit lung nodule growth compared with those who were prescribed alternative diabetic medications (12% vs 24%, $p = 0.04$). (HR 0.38 [95% CI, 0.18-0.80]. Patients who were prescribed an SGLT2-i were less than half as likely to undergo a surgical intervention compared with patients taking alternative diabetic medications, with a cumulative incidence of surgical interventions of 3% among patients who were prescribed an SGLT2-i and 13% among patients taking alternative diabetic medications ($p < 0.01$). The number needed to treat with an SGLT2-i to prevent one additional surgical intervention over a 10-year time frame was 15.6 patients.

"SGLT2 inhibitors may hold therapeutic potential for patients with early-stage pulmonary adenocarcinoma by slowing nodule growth and reducing the need for surgical interventions such as biopsies and resections," said Katherine Welch, MD, lead researcher and CHEST 2025 presenter. "This may have far-reaching implications to other early-stage adenocarcinomas."

The administration of SGLT2-I correlated with decreased lesion growth and fewer surgical interventions, indicating a possible protective effect against tumor progression in in situ pulmonary adenocarcinoma.

Further results will be shared at the CHEST Annual Meeting 2025 as part of the *Targeted Therapies, Tumor Biology, and Precision Approaches in Lung Cancer original investigations presentations* titled, *Sodium-Glucose Cotransporter 2 Inhibitors Attenuate Growth and Decrease Surgical Interventions on In-Situ Pulmonary Adenocarcinoma*. The [study abstract](#) can be viewed on the CHEST® journal website.