

Blood-sugar lowering medications may increase risk for false positive results in cancer screenings

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A study presented at SNM's 57th Annual Meeting suggests that medication ingested to control blood-sugar levels can skew the results of cancer screenings using positron emission tomography (PET), a molecular imaging technique, by increasing absorption in the gut of the PET imaging agent called fluorodeoxyglucose (18F-FDG), which mimics sugar inside the body.

"The use of certain medications can influence where and how much of the imaging agent is taken up by the body," said Kyle Hurtgen, certified nuclear medicine technologist, Saint Louis University Hospital, St. Louis, Mo., and lead author of the study. "It is important for technologists to know the patient's history and use that information to their advantage to help physicians detect cancer and provide the best possible treatment for diabetic patients."

According to the study, diabetic patients taking tablet-form medications to help control blood-sugar levels prior to being screened for cancer using PET showed abnormally high intestinal absorption of 18F-FDG, a sign that normally indicates a [cancerous tumor](#).

Suspiciously high absorption of this agent, which is bound with a molecular compound that acts like glucose and is metabolized by cells in the body as fuel, is seen as a "hot spot" on a PET scan. These hot spots can signal the high [metabolic activity](#) of [cancer cells](#), but blood-sugar

lowering medications called oral hypoglycemics can cause a similar visual effect that may make diagnosis more difficult. Determining the use of these medications and potentially discontinuing their use prior to imaging may improve diagnostic accuracy for diabetics, especially those suspected of having colon or other bowel cancers.

The study was conducted at Saint Louis University Hospital using advanced PET/CT technology. The research involved the imaging of three groups of patients with known or suspected extraabdominal cancer. Patients in one group had been diagnosed with diabetes mellitus and had taken oral hypoglycemics prior to imaging. Another group included diabetic patients who had not taken these medications and the third group included non-diabetic patients. More than 60 percent of those who had taken oral hypoglycemics were determined to have much higher bowel and intestinal uptake of the tracer than patients in the other two groups, prompting technologists and clinicians to carefully evaluate the use of blood-sugar lowering medications when imaging diabetic patients.

Provided by Society of Nuclear Medicine

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