The Diabetes Connection

Having diabetes can put a person at greater risk for certain cancers and affect cancer treatment.

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“Cancer and diabetes are two sides of the same coin,” says Debbie Thurmond, PhD, director of the Diabetes and Metabolism Research Institute at City of Hope, a Southern California–based research and treatment center for cancer, diabetes and other diseases. “They are disruptions of the body’s normal metabolism.” People with type 2 diabetes are twice as likely to develop liver or pancreatic cancer and are at increased risk for colon, bladder and breast cancer.

But the connection has particular implications for people with diabetes in treatment for cancer. Certain checkpoint inhibitor immunotherapies, which unleash the body’s T cells to attack tumors, can, in certain cases, trigger an immune attack on the insulin-producing beta cells in the pancreas. “These individuals suffer from very high blood sugar, and they need a lot of insulin rapidly,” says Thurmond. “Other therapies, such as corticosteroids, often used to manage treatment side effects, may impair blood sugar control in patients with no prior history of diabetes and can worsen preexisting diabetes.”

These possible side effects are no reason to avoid treatment—immunotherapy is often lifesaving, and diabetes can be treated—but they do highlight the importance of good team care. For people with diabetes, “the initial consultation should be with an oncologist and then with an endocrinologist, who can work together as a team,” says Thurmond. “Then you can optimize treatment.”

In 2020, City of Hope opened a new department to study these interconnections, which go both ways. Newer diabetes therapies aim to regenerate beta cells to produce insulin again, for example, “but the moment you increase the proliferation of cells in the body, it raises red flags in the cancer community,” she says. “The ultimate goal is to develop treatments that target cancer without causing diabetes and vice versa.”

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