Type 2 diabetes increases risk of liver and pancreatic cancers, study shows

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People who develop type 2 diabetes face an increased risk of some of the most lethal cancers, including liver and pancreatic tumours, with the greatest rises in women, research suggests.



The analysis of health records from 95,000 people found that the risk of pancreatic cancer was nearly twice as high, and the chance of developing liver cancer almost five times as high, in women recently diagnosed with type 2 diabetes.

The chances of developing the cancers rose in men too, with newonset type 2 diabetes linked to a 74% increase in pancreatic cancer and a near quadrupling in the risk of liver cancer in the five years afterwards.

A smaller effect was seen for bowel cancer, with the risk of the disease 34% higher in women and 27% higher in men with new-onset type 2 diabetes compared with people without a recent diabetes diagnosis.

“Diabetes and obesity are associated with similar cancer types,” said Owen Tipping, a medical student who worked on the study with Andrew Renehan, professor of cancer studies and surgery at the University of Manchester. “Our research was detecting the effect of diabetes on cancer, after adjusting for obesity.”

Previous studies have linked obesity with 13 types of cancer, many of which are also more common in people with type 2 diabetes. But researchers have struggled to work out whether diabetes itself raises the risk of some or all of the cancers.

For the latest study, the Manchester group turned to the UK Biobank which holds medical and lifestyle data on half a million people. They examined the records of 23,750 people with newly diagnosed type 2 diabetes and compared them with more than 70,000 matched controls without diabetes.

There tends to be a surge in cancer diagnoses shortly after people are found to have diabetes, simply because patients have more medical tests. The researchers accounted for this spike in

cancer due to better detection by ignoring cases reported within a year of a diabetes diagnosis. According to the study, after five years the risk of any obesityrelated cancer was 48% higher for men recently diagnosed with type 2 diabetes than for those without the condition. For women, the risk was 24% higher in those with a recent diabetes diagnosis.

Not all obesity-related cancers rose with diabetes, however. Women with diabetes were no more likely to develop endometrial cancer or post-menopausal breast cancer than those without, according to the study which will be presented at the European Congress on Obesity in Málaga, Spain, in May.

Across the population, the lifetime risks for liver and pancreatic cancer are higher for men than women. In the UK, one in 76 men and one in 130 women will develop liver cancer, while one in 55 men and one in 59 women will get pancreatic cancer.

Tipping said it was too early to know whether people with diabetes would benefit from cancer screening, but added: “We know with pancreatic cancer that it’s important to detect it early.”

It is unclear how diabetes might drive cancer, but scientists suspect high levels of insulin, high blood glucose and chronic inflammation. The sex differences may be driven by hormone levels, how sensitive the body is to the effects of insulin or variations in body fat.

Sophia Lowes at Cancer Research UK said: “This study helps increase our understanding of the link between diabetes and cancer. While many questions remain about how and why diabetes might cause cancer, research like this is vital in helping us better prevent, detect and diagnose the disease.

“Overweight and obesity cause at least 13 different types of cancer. The world around us doesn’t always make it easy, but keeping a healthy weight and eating a healthy, balanced diet is one way to reduce the risk of cancer. There are other steps people can take too, such as not smoking and cutting down on alcohol.”