

Diabetes increases the risk of developing and dying from breast and colon cancer

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Diabetes is linked to an increased risk of developing cancer, and now researchers have performed a unique meta-analysis that excludes all other causes of death and found that diabetic patients not only have an increased risk of developing breast and colon cancer but an even higher risk of dying from them.

Dr Kirstin De Bruijn will tell the 2013 European Cancer Congress (ECC2013) [1], on Sunday, that previous studies have examined the association between [diabetes](#) and dying from cancer but death from specific [types of cancer](#) has not been well-studied. "Our meta-analysis is the first to combine incidence and death from breast and colon cancer, while excluding all other causes of death. We have investigated the link between diabetes and the risk of developing as well as the risk of dying from these cancers," she will say.

Dr De Bruijn, a PhD student in the Surgery Department at the Erasmus University Medical Center in Rotterdam (The Netherlands), and colleagues analysed results from 20 trials that had taken place between 2007 and 2012, involving more than 1.9 million patients with breast or colon cancer, with or without diabetes.

They found that patients with diabetes had a 23% increased risk of developing [breast cancer](#) and a 38% increased risk of dying from the disease compared to non-diabetic patients. Diabetic patients had a 26% increased risk of developing colon cancer and a 30% increased risk of dying from it compared to non-diabetic patients.

Dr De Bruijn will say: "The results for breast and colon [cancer incidence](#) in patients with diabetes are consistent with other meta-analyses. Furthermore, this meta-analysis shows a higher risk and a stronger association between diabetes and death from breast and colon cancer than previously reported.

"Cancer patients who are obese and diabetic are an already more vulnerable group of individuals when it comes to surgery, as they have an increased risk of developing complications both during and after surgery. If more obese and diabetic patients have to have an operation because of cancer, healthcare costs will increase.

"Worldwide, the numbers of obese and subsequent diabetic patients are still increasing and it is a cause for concern that these individuals are at a higher risk of developing cancer and dying from it. Studies have already highlighted the increased risk of developing cancer for diabetics. Our meta-analysis, which is unique since it looks at the risks for breast and colon cancer while excluding all other causes of death, provides stronger evidence for the association between diabetes and the risk of developing and dying from these cancers. We want to make people more aware of this problem and we hope that prevention campaigns regarding obese and [diabetic patients](#) will focus on highlighting this increased risk."

Dr De Bruijn and her colleagues intend to follow up their work by investigating what effect other factors associated with diabetes have on cancer risk and death, such as the anti-diabetic medication, metformin, as well as insulin and the duration of diabetes.

"It is extremely important that prevention campaigns on obesity and diabetes are intensified and that they also focus on children, to prevent them from becoming obese and developing cancer later in life," she will conclude.

Professor Cornelis van de Velde, President of ECCO, said: "With the increase in incidence of both diabetes and breast cancer, this is an important update of the meta-analyses on this subject and an interesting addition to the literature as this study excluded other causes of death. As the results are consistent with earlier meta-analyses, the substantial [increased risk](#) of breast cancer should be part of prevention campaigns. For further research, it would be important to study how other, competing risk factors might affect survival, as elderly [cancer patients](#) with diabetes are usually diagnosed with other conditions as well. Additionally, the potential role of metformin in relation to improved survival and cancer recurrence needs to be studied."

Professor Hans-Joerg Senn, scientific director at the Tumor and Breast Centre ZeTuP, St Gallen, Switzerland, said: "The message from the Erasmus Medical Center is disturbing and highly important, for the medical community, as well as for the public and politicians. It highlights once more the importance of the negative interactions between lifestyle, metabolism, overweight and certain frequent types of cancers, such as here between diabetes, obesity and breast cancer as well as [colon cancer](#). It is time for increased and more effective information and prevention campaigns, especially in the economically developed world, where caloric abundance is prevalent."

More information: [1] The 2013 European Cancer Congress is the 17th congress of the European CanCer Organisation (ECCO), the 38th congress of the European Society for Medical Oncology (ESMO) and the 32nd congress of European Society for Therapeutic Radiology and Oncology (ESTRO).

[2] No external funding was provided for this work.

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