

# Drug combination could help reduce risk of death in type 2 diabetes

May 5 2016

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People with type 2 diabetes treated with insulin plus metformin had a reduced risk of death and major cardiac events compared with people treated with insulin alone, a new study by Cardiff University shows.

Led by Professor Craig Currie of the University's School of Medicine, the retrospective research looked at people with type 2 diabetes who were treated with [insulin](#) with or without [metformin](#) from the year 2000 onwards.

12,020 people were identified from a general practice data source, and the research team tracked them for three and a half years on average, from the time they were first prescribed insulin.

The researchers found that when used in conjunction with insulin, metformin had the potential to reduce mortality and heart attacks. They also found that there was no difference in the risk of cancer between people treated with insulin as a single therapy or in combination with metformin.

Professor Currie said: "Since 1991, the rate of insulin use in type 2 diabetes increased more than six-fold in the UK. In more recent years, metformin has also been used alongside insulin as a treatment.

"Previously, our work showed that increased insulin dose is linked with mortality, cancer and heart attacks. Existing studies have also shown that metformin can attenuate the risks associated with insulin.

"In this research we examined insulin dose along with the impact of combining insulin with metformin. We found that there was a considerable reduction in deaths and heart problems when this cheap and common drug was used in conjunction with insulin.

Around 3.9m people live with diabetes in the UK, with more than 90% of those affected having type 2 diabetes.

"While this research indicates the potential of using these treatments together, further studies are needed to determine the risks and benefits of insulin in type 2 [diabetes](#) and the possible benefits associated with the administration of metformin alongside insulin," added Professor Currie.

The paper 'Association between insulin monotherapy versus insulin plus metformin and the risk of all-cause mortality and other serious outcomes: a retrospective cohort study' was published in the journal *PLOS ONE*.

Provided by Cardiff University

Citation: Drug combination could help reduce risk of death in type 2 diabetes (2016, May 5) retrieved 26 April 2024 from

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