

## Cancer related mortality in type 2 diabetes patients in relation to antidiabetic therapy

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**D**iabetes mellitus has been shown in many epidemiologic studies to be a risk factor for the development of various location cancers, and the pathogenic link appears to be the hyperinsulinemia and insulin resistance, as the growth promoting and mitogenic properties of insulin are long time recognized. Diabetes therapy may include drugs that increase circulating insulin levels (sulfonylureas and exogenous insulin) and drugs that reduce insulin resistance (metformin and glitazones).

A retrospective population-based Canadian cohort study included 10,309 new antidiabetic drugs users in an index period between January 1<sup>st</sup> 1991 and December 31<sup>st</sup>, 1996, at least 30 years old at the time when they first used the drug, with aged at least one year of treatment before the index date. The mean age of the cohort was 63 +/- 13.3 years, and 55 % were men. The primary outcome was cancer related mortality over a mean follow-up period of 5.4 +/- 1.9 years.

In a multivariate analysis there was found a significant increase in cancer related deaths in the sulfonylurea cohort compared to the metformin cohort with cancer related mortality rates per 1,000 person-years of 9.7 and 6.3 respectively and a significant increase in cancer related mortality rates for insulin users compared to non-users ( 9.9 and 6.8 respectively).

Along with (few) other published epidemiologic studies exploring the relationship between cancer and diabetes treatment (a Scottish case-control study found a similar difference in risk for patients exposed to metformin compared to sulfonylureas and a British retrospective cohort study found a significant increase in risk of colorectal cancer in type 2 diabetic patients using exogenous insulin), this study rises the question whether the differences in cancer risk related to antidiabetic treatment are due to a protective effect of metformin or to deleterious effects of sulfonylureas and insulin.

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*Comment on the paper:*

**Bowker SL, Majumdar SR, Veugelers P, Johnson JA** – Increased cancer-related mortality for patients with type 2 diabetes who use sulfonylureas or insulin. *Diabetes Care* 2006 Feb; 29(2):254-258