

Cardiovascular risk in type 2 diabetics with dangerously low blood sugar levels

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Type 2 diabetics who have severe hypoglycaemia are at higher risk of cardiovascular disease, a paper published today in *BMJ* suggests.

Severe hypoglycaemia is a condition where there is an abnormally low content of sugar in the blood. It is often classed as a medical emergency.

Severe hypoglycaemia is a potential risk factor for cardiovascular disease in patients with [type 2 diabetes](#) and recent clinical trials have failed to demonstrate a beneficial effect of intensive [glucose control](#) on overall CVD events.

Although [observational studies](#) have reported a positive association between severe hypoglycaemia and CVD risk, the association remains controversial. So researchers from Japan, the USA and the Netherlands carried out the first systematic review to assess this association.

They analysed the results of six studies involving a study population of 903,510 patients. Information on patients' characteristics was taken, including: age, gender, duration of diabetes, CVD history, insulin use, BMI and smoking status.

In total, 0.6 – 5.8% of participants experienced severe hypoglycaemia from one to five years follow-up. Overall, this added just 1.56% to the total risk of developing cardiovascular disease in the whole population, but the link was consistent with all studies showing a positive correlation.

Given this risk, the researchers say avoiding severe hypoglycaemia may be important to prevent CVD and "less stringent glycaemic targets may be considered for type 2 [diabetic patients](#) at high risk of hypoglycaemia".

The positive association has been previously explained by having one or more other serious illnesses, but the researchers say this is unlikely to explain this. They suggest that the prevalence of serious illnesses would need to be "unrealistically high" among patients who experienced severe hypoglycaemia and the association between serious illnesses and cardiovascular disease would need to be "extremely strong".

In conclusion, the researchers say that their results suggest "that severe hypoglycaemia is associated with a 2-fold increased risk of CVD". They say that choices of glucose lowering agents with a low propensity to induce hypoglycaemia, patient education, and self-monitoring of blood glucose can be useful in preventing [hypoglycaemia](#) which in turn, "may be important to prevent cardiovascular disease in type 2 diabetes patients".

Provided by British Medical Journal

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