

Diabetes and heart attack is a particularly risky combination

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After a heart attack, patients with diabetes are at greater risk of heart failure and subsequent death than those without diabetes, according to late breaking results from the FAST-MI registry presented today at ESC Congress 2019 together with the World Congress of Cardiology.

Principal investigator Professor Nicolas Danchin of the European Hospital Georges Pompidou, Paris, France said: "The findings emphasise the importance of preventing [diabetes](#) with better lifestyles, including avoiding obesity and overweight with a healthy diet and being physically active. In patients with diabetes, and especially those with [coronary artery disease](#) or previous heart attack, we need treatments that reduce blood sugar and decrease the risk of heart failure."

Diabetes is a growing public health concern. High [blood sugar](#) levels slowly attack the artery walls and facilitate deposits of cholesterol. The ensuing lipid-rich plaques can block arteries in the heart, brain, and legs, raising the risks of heart attack, stroke, and claudication with possible amputation.

In theory, high blood glucose levels may impair the capacity of heart cells to contract and propel blood throughout the body, leading to heart failure. However, whether patients with diabetes are at greater risk of developing heart failure when suffering a heart attack has not been extensively studied.

The study used data from nationwide surveys carried out in France between 2005 and 2015 in 12,660 patients hospitalised for a heart attack. The researchers analysed whether [diabetic patients](#) were more likely than non-diabetic patients to develop heart failure during their hospital stay and in the year after. In patients with diabetes, they compared five-year mortality in those readmitted for nonfatal heart failure during the year following their heart attack versus those who did not develop heart failure.

Nearly 25% of patients hospitalised for an [acute myocardial infarction](#) during the ten-year period had known diabetes (3,114 of 12,660 patients). "This figure is consistent with what most cardiologists have found among their heart attack patients and illustrates how common

diabetes is," said Prof Danchin.

During hospitalisation for myocardial infarction, 32% of patients with diabetes developed heart failure compared to 17% of patients without diabetes. After adjusting for other factors that could cause heart failure, those with diabetes had a 56% higher risk than those without of developing heart failure.

Likewise, in those who survived the heart attack, 5.1% of diabetic patients were hospitalised for nonfatal heart failure in the following year compared to 1.8% of non-diabetic patients. After adjustment, this equated to a 44% raised risk of heart failure in those with diabetes.

Finally, among patients with diabetes who were alive one year after their heart attack, 56% of patients who had been hospitalised for heart failure during that year died during the subsequent four years compared to 21% of those without heart failure. After adjustment, this amounted to a 73% higher risk of five-year mortality in those with heart failure. The increased risk was particularly marked for diabetic patients requiring insulin.

Prof Danchin said: "Our study shows that diabetes is associated with a considerably increased risk of developing heart failure after a heart attack. Furthermore, diabetic patients who develop heart failure in the year after a [heart](#) attack have a much higher risk of dying in the following years."

He concluded: "More efforts are needed to prevent diabetes. In addition, better management is required for diabetic patients who have a [heart attack](#) to avoid [heart failure](#) and its detrimental long-term consequences."

More information: "Diabetes and heart failure after acute myocardial

infarction. The FAST-MI programme" ESC Congress 2019.

Provided by European Society of Cardiology

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