

Study finds link between atrial fibrillation and an increased risk of death in diabetic patients

12 March 2009

Results from a large, international, randomised, controlled trial have shown that there is a strong link between diabetics who have an abnormal heart rhythm (atrial fibrillation) and an increased risk of other heart-related problems and death. The findings are published in Europe's leading cardiology journal, the *European Heart Journal* [1] today (Thursday 12 March).

The ADVANCE [2] study of 11,140 [patients](#) with [type 2 diabetes](#) found that patients who had [atrial fibrillation](#) (AF) at the start of the trial had a 61% increased risk of dying from any cause, a 77% increased risk of dying from cardiovascular causes such as a heart attack or stroke, and a 68% increased risk of developing [heart failure](#) or other cerebrovascular problems such as stroke, when compared with [diabetic patients](#) who did not have AF.

However, the study also found that if clinicians gave more aggressive treatments to the diabetic AF patients - in this study they treated them with a combination [blood pressure](#) lowering drugs, (perindopril and indapamide) - the risk of dying or developing any of these complications was reduced. It was also reduced in diabetic patients without AF who were given the same treatment.

Professor Anushka Patel, Director of the Cardiovascular Division at The George Institute for International Health (University of Sydney, Australia) and an Associate Professor in the Faculty of Medicine at the university, who led the study, said: "Active treatment produced similar relative benefits to patients with and without AF. However, because of their higher risk at the start of the study, the absolute benefit associated with active treatment was greater in patients with AF than without. We estimate that five years of active treatment would prevent one death among every

42 patients with AF and one death among every 120 patients without AF."

The findings have important implications for the management of diabetics and for policy in this area. Diabetes is a major global health problem, with an estimated worldwide prevalence of 2.8% in 2000, projected to increase to 4.4% in 2030. Atrial fibrillation is common in diabetic patients.

Prof Patel said: "The prevalence of AF varies greatly according to the population's age and other health problems. It ranges between 4% in primary care settings to 15% in hospitalised patients. In our study, 847 (7.6%) of the 11,140 patients had AF at baseline and a further 352 patients developed AF over an average follow-up of 4.3 years. The overall prevalence in this population was about 11%. There are data to suggest that the prevalence of AF in people with diabetes is about twice that among people without diabetes.

"The number of diabetic patients is projected to increase to 380 million at 2025. We might expect that about 40 million of these will also have AF. Thus the study findings have direct implications for a large number of individuals globally.

"This study informs clinicians that AF is a marker of greater risk of cardiovascular events and mortality among diabetics, both men and women. Such patients should have their cardiovascular risk factors, such as blood pressure and cholesterol, controlled more aggressively. This is a separate issue to rate and rhythm control (or the use of anticoagulants to prevent thromboembolic events), which is the usual therapeutic focus in patients with AF. These issues are important, but we believe our data suggest that heightened awareness and management of overall cardiovascular risk is also important.

"An example of this comes from the results of the blood pressure intervention in ADVANCE. Routine administration of a fixed combination of perindopril and indapamide to patients with type 2 diabetes resulted in 18% reduction of cardiovascular death and 14% reduction of death from any cause in both patients with and without AF. However, because of their higher baseline risks, patients with AF benefited more, in absolute terms."

Source: European Society of Cardiology ([news](#) : [web](#))

The study also found that there was a significantly stronger association between AF and deaths from cardiovascular disease in women compared with men. Women with AF were twice as likely to die than women without AF, whereas men with AF were 50% more likely to die than men without AF. As healthy women normally have a lower risk of death from heart disease than do men of a similar age, this increased risk in diabetic women with AF meant that the women's rates of death matched those of the men.

Prof Patel pointed out that AF was frequently undetected in diabetic patients. "The current analysis highlights the importance of actively evaluating diabetic patients for the presence of AF, to identify those at particularly high risk of cardiovascular events. Routine administration of blood pressure-lowering treatment, as well as greater use of antiplatelet or anticoagulant agents and statins, may be expected to reduce the incidence of a broad range of adverse outcomes in these patients."

More information:

[1] "Risks of cardiovascular events and effects of routine blood pressure lowering among patients with type 2 diabetes and atrial fibrillation: results from the ADVANCE study". [European Heart Journal](#). doi:10.1093/eurheartj/ehp055.

[2] ADVANCE stands for Action in Diabetes and Vascular Disease: preterAx and diamicroN-MR Controlled Evaluation. The ADVANCE trial is the largest clinical trial on diabetes ever conducted. It is a multi-centre, randomised, placebo controlled study and involves 11,140 patients with type 2 diabetes from over 20 different countries in Asia, Australasia, Europe and North America.

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