

Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

Reviewers

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Cardiovascular disease

Diabetes raises risk of cardiovascular mortality in severe aortic stenosis

Diabetes mellitus is strongly associated with death from heart failure and sudden death in patients with severe aortic stenosis (AS), a study from France has found. No such association was seen in patients with mild/moderate AS.

Patients with AS, graded according to peak transvalvular velocity on echocardiography, attending cardiology outpatients in the Nord-Pas-de-Calais region were enrolled between May 2016 and December 2017. These patients were then followed up for cause of death between May 2018 and August 2020.

A total of 2,703 patients completed follow-up; 1,154 (42.7%) had mild AS, 1,122 (41.5%) moderate AS and 427 (15.8%) severe AS. At baseline, the mean age was 76 ± 10.8 years and 47% were women. A total of 820 patients (30.3%) had diabetes and there was a relatively high prevalence of underlying cardiovascular disease (76.3% hypertension; 18.3% previous coronary event; 22.5% atrial fibrillation).

There were 200 cardiovascular

deaths prior to aortic valve replacement during the 2.1 years (IQR 1.4–2.7) follow-up period.

Following adjustment for age, gender, history of hypertension, previous coronary event, previous hospitalisation for heart failure and AS severity:

- Diabetes mellitus was significantly associated with cardiovascular mortality; HR 1.40 (95% CI: 1.04–1.89; $P = 0.029$)
- In mild or moderate AS, the cardiovascular mortality of patients with diabetes was similar to that of patients without diabetes
- In severe AS, diabetes was associated with higher cardiovascular mortality; HR 2.65 (95% CI: 1.50–4.68; $P = 0.001$). This was almost exclusively related to a higher risk of death from: Heart failure HR 2.61 (95% CI: 1.15–5.92; $P = 0.022$) Sudden death HR 3.33 (95% CI: 1.28–8.67; $P = 0.014$)

Severe AS is an increasingly common and dangerous form of valvular heart disease. Diabetes mellitus is a common comorbidity in patients with AS and current information about its effect across the spectrum of aortic stenosis is limited with trials focusing on severe AS or aortic valve replacement trials.

The study authors state: 'Our results demonstrate that the excess cardiovascular mortality is related to two causes: death from heart failure and sudden death. These findings point to the potential role of the exacerbated cardiac remodelling and fibrosis observed in patients with diabetes.'

The authors conclude that the effect of diabetes on cardiovascular mortality varied across the spectrum of AS severity. There was no association between diabetes and outcomes in patients with mild and moderate AS but diabetes was strongly associated with death from heart failure and sudden death in patients with severe AS.

This is important as the timing of intervention in patients with truly asymptomatic severe AS is currently the subject of much debate and research. The presence of diabetes would appear to be an important consideration in the decision-making process for such patients.

DR PETER SAVILL

Coisne A, Montaigne D, Ninni S et al on behalf of the VALVENOR investigators. Diabetes mellitus and cardiovascular mortality across the spectrum of aortic stenosis. Heart 2022;108:1815–21 >>