Clinical reviews

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

Reviewers

Addiction
Dr Jez Thompson
GP Leeds and Clinical Director Lifeline (North) RCGP regional lead substance misuse RCGP/British Liver Trust clinical champion for liver disease

Cardiovascular disease
Dr Peter Savill
GP Watercress Medical, Medstead
GPwSI Cardiology, Southampton

Diabetes
Dr Matthew Lockyer
GP with an interest in diabetes, Suffolk

Dr Peter Savill
GP Watercress Medical, Medstead
GPwSI Cardiology, Southampton

Mental health
Dr Phillip Bland
GP with an interest in mental health, Dalton-in-Furness

Obstetrics and gynaecology
Dr Chris Barclay
GP with an interest in O&G, Suffolk

Paediatrics
Dr Chris Barclay
GP with an interest in O&G, Suffolk

Sexual health
Dr Richard Ma
GP with an interest in sexual health and NIHR Research Fellow, Imperial College, London

Smoking cessation
Dr Jez Thompson
GP Leeds and Clinical Director Lifeline (North) RCGP regional lead substance misuse RCGP/British Liver Trust clinical champion for liver disease

Urology
Dr Jonathan Rees
GPwSI Urology, Bristol

Cardiovascular disease

AF linked to raised risk of a wide range of conditions

Atrial fibrillation (AF) is associated with an increased risk of death, heart failure, chronic kidney disease and major cardiovascular events as well as stroke, a large meta-analysis has found.

A systematic review and meta-analysis of cohort studies was carried out to examine the association between AF and cardiovascular disease, renal disease, and death.

A search on Embase and Medline identified 104 eligible studies involving 9,686,513 participants, of whom 587,867 had AF.

Two reviewers independently extracted study characteristics and the relative risk of outcomes associated with AF. The outcomes analysed were all cause mortality, cardiovascular mortality, major cardiovascular events, any stroke, ischaemic stroke, haemorrhagic stroke, ischaemic heart disease, sudden cardiac death, congestive heart failure, chronic kidney disease, and peripheral arterial disease.

AF was associated with an increased relative risk for: all cause mortality, cardiovascular mortality, major cardiovascular events, stroke, ischaemic stroke, ischaemic heart disease, sudden cardiac death, heart failure, chronic kidney disease and peripheral arterial disease but not haemorrhagic stroke, see table 1, below. Associations between AF and these outcomes were broadly consistent across subgroups.

The highest absolute risk increase associated with AF was for incident congestive heart failure 11.1 events/1,000 participant-years followed by chronic kidney disease 6.6 events/1,000 participant-years. Respective values for ischaemic stroke, cardiovascular mortality and ischaemic heart disease were: 2.9, 2.6 and 1.4 events/1,000 participant-years.

The authors conclude that AF is associated with cardiovascular and renal events as well as stroke and all cause mortality.

'The relative and absolute risk increase associated with many of these events is greater than that of stroke,' they point out.

This is an important conclusion for clinical practice as often the focus in AF is on thromboembolic stroke reduction with a low threshold for anticoagulation and symptom control whereas clinicians should also consider interventions aimed at reducing non stroke outcomes.

'Even though the associations we describe cannot indicate causality for the non stroke outcomes, there is merit in developing clinical risk prediction models for outcomes such as congestive heart failure,' the authors add.

Table 1

Association between atrial fibrillation and outcomes

Outcome	Relative risk
All cause mortality	1.46 (95% CI: 1.39-1.53)
Cardiovascular mortality	2.03 (95% CI: 1.79-2.30)
Major cardiovascular events	1.96 (95% CI: 1.53-2.51)
Stroke	2.42 (95% CI: 2.17-2.71)
Ischaemic stroke	2.33 (95% CI: 1.84-2.94)
Ischaemic heart disease	1.61 (95% CI: 1.38-1.87)
Sudden cardiac death	1.88 (95% CI: 1.36-2.60)
Heart failure	4.99 (95% CI: 3.04-8.22)
Chronic kidney disease	1.64 (95% CI: 1.41-1.91)
Peripheral arterial disease	1.31 (95% CI: 1.19-1.45)

DR PETER SAVILL

Odutayo A, Wong CX, Hsiao AJ et al. Atrial fibrillation and risks of cardiovascular disease, renal disease, and death: systematic review and meta-analysis. *BMJ* 2016;354:i4482

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See also *Prompt diagnosis of AF lowers risk of complications*, p11.