Cardiology Bulletin

Articles

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**Adjunctive Intermittent Pneumatic Compression for Venous Thromboprophylaxis.**
[Among critically ill patients who were receiving pharmacologic thromboprophylaxis, adjunctive intermittent pneumatic compression did not result in a significantly lower incidence of proximal lower-limb deep-vein thrombosis than pharmacologic thromboprophylaxis alone.]
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**Angiotensin receptor neprilysin inhibitors in older patients with heart failure.**
[Heart failure affects approximately 1.5% of the adult population in developed countries and the prevalence rises to almost 10% in those over 70 years, a progressively increasing subset of the population. Sacubitril/Valsartan (an angiotensin receptor/neprilysin inhibitor—ARNi) was introduced as a novel agent for heart failure in 2014. Should this novel agent be tolerated and prove efficacious in older patients with heart failure?]
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**Clinical experience of a subcutaneously anchored sutureless system for securing central venous catheters.**
[This article reports the results of three prospective clinical studies conducted in a university hospital regarding the efficacy, safety and cost effectiveness of a subcutaneously anchored sutureless system for securing central venous catheters. The results were favourable to the adoption of such a device, and the analysis of the data allowed the authors to define those categories of patients where the device should have the most benefit.]
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**Comparative Effectiveness of the Core Components of Cardiac Rehabilitation on Mortality and Morbidity: A Systematic Review and Network Meta-Analysis.**
[A systematic review and network meta-analysis of randomized controlled trials evaluating the core components of cardiac rehabilitation (CR), nutritional counseling (NC), risk factor modification (RFM), psychosocial management (PM), patient education (PE), and exercise training (ET)] was undertaken. ... Given that each component, individual or in combination, was associated with mortality and/or morbidity, recommendations for comprehensive CR are warranted.]
*Freely available online*
Comparing Automated Office Blood Pressure Readings With Other Methods of Blood Pressure Measurement for Identifying Patients With Possible Hypertension: A Systematic Review and Meta-analysis.
Roerecke M. *JAMA Internal Medicine* 2019;:.
[Automated office blood pressure readings, when recorded properly, are more accurate than office BP readings in routine clinical practice and are similar to awake ambulatory BP readings. There has been some reluctance among physicians to adopt this technique because of uncertainty about its advantages compared with more traditional methods of recording BP during an office visit. Based on the evidence, AOBP should now be the preferred method for recording BP in routine clinical practice.]

Effect of continuous positive airway pressure on long-term cardiovascular outcomes in patients with coronary artery disease and obstructive sleep apnea: a systematic review and meta-analysis.
[The use of CPAP in patients with CAD and OSA might prevent subsequent cardiovascular events, which was only demonstrated in observational studies, but not in RCTs. The value of CPAP therapy as second prevention for CAD needs further investigation.]

Freely available online

Exercise-based cardiac rehabilitation for adults with heart failure.
Long L. *Cochrane Database of Systematic Reviews* 2019;1:CD003331.
[Chronic heart failure (HF) is a growing global health challenge. People with HF experience substantial burden that includes low exercise tolerance, poor health-related quality of life (HRQoL), increased risk of mortality and hospital admission, and high healthcare costs.]

Exercise-based cardiac rehabilitation improves exercise capacity and health-related quality of life in people with atrial fibrillation: a systematic review and meta-analysis of randomised and non-randomised trials.
Smart NA. *Open Heart* 2018;5(2):e000880.
[Exercise capacity, cardiac function, symptom burden and health-related quality of life were improved with exercise-based CR in the short term (up to 6 months) targeted at patients with AF. However, high-quality multicentre randomised trials are needed to clarify the impact of exercise-based CR on key patient and health system outcomes (including health-related quality of life, mortality, hospitalisation and costs) and how these effects may vary across AF subtypes.]

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Hospital-based quality improvement interventions for patients with heart failure: a systematic review.
[Randomised trials of hospital-based HF quality improvement interventions do not show a consistent effect on most process of care measures and clinical outcomes. The overall quality of evidence for the prespecified primary and key secondary outcomes was very low to moderate, suggesting that future research will likely influence these estimates.]
Impact of oral anticoagulants on 30-day readmission: a study from a single academic centre.
[Providing special care for patients on anticoagulation who are at a high risk of readmission can significantly improve the chances of avoiding rehospitalizations. Our data suggests that warfarin therapy is a risk factor for all-cause 30-day hospital readmission. DOAC therapy is not found to be associated with a higher risk of hospital readmission. However, there are several factors that play in account confounding with anticoagulation use.]

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Improving anticoagulation of patients with an implantable left ventricular assist device
[Patients with implantable left ventricular assist devices (LVAD) have a significant risk of bleeding and thromboembolic complications. We found variation in the frequency of International Normalised Ratio (INR) measurements and time outside the therapeutic INR range in our LVAD-supported patients. Home INR monitoring and an electronic database for recording INR results and treatment decisions were introduced. These changes were associated with increased frequency of INR measurement.]
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Improving the Prescription of Oral Anticoagulants in Atrial Fibrillation: A Systematic Review.
[Interventions designed to improve appropriate prescription of OACs in eligible AF patients for stroke prevention can be effective. Successful approaches include education of HCPs; implementation of local guidelines; interdisciplinary medical care programs educating both HCPs and patients and persuasive interventions utilizing peer-group experts.]
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Left Ventricular Unloading During Extracorporeal Membrane Oxygenation in Patients With Cardiogenic Shock.
[In observational studies, left ventricular unloading was associated with decreased mortality in adult patients with cardiogenic shock treated with VA-ECMO. In the absence of prospective randomized data, left ventricular unloading may be considered for appropriately selected patients undergoing VA-ECMO support.]
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Long-Term Effects of Oxygen Therapy on Death or Hospitalization for Heart Failure in Patients With Suspected Acute Myocardial Infarction
[Routine use of supplemental oxygen in normoxemic patients with suspected myocardial infarction was not found to reduce the composite of all-cause mortality and hospitalization for heart failure, or cardiovascular death within 1 year or during long-term follow-up.]
Mothers who give birth to offspring with low birth weight may have increased risk for cardiovascular death.
[Pregnancy has been suggested as a window of opportunity for cardiovascular disease prevention. However, healthcare workers should not inflict concerns about future health in mothers who have experienced pregnancy complications, unless preventive interventions are shown to be effective.]
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Periprocedural Bridging in Patients with Venous Thromboembolism: A Systematic Review.
[Periprocedural bridging increases the risk of bleeding compared with VKA interruption without bridging, without a significant difference in periprocedural venous thromboembolism rates.]
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Rivaroxaban for Thromboprophylaxis in High-Risk Ambulatory Patients with Cancer.
[In high-risk ambulatory patients with cancer, treatment with rivaroxaban did not result in a significantly lower incidence of venous thromboembolism or death due to venous thromboembolism in the 180-day trial period. During the intervention period, rivaroxaban led to a substantially lower incidence of such events, with a low incidence of major bleeding.]

[Our analyses suggested that exercise training among AAA patients is generally safe, although future research should be carried out to further clarify the safety among patients with large AAAs. Exercise training improved peak VO2 and AT in AAA patients. More data are required to identify the optimal exercise duration for improving exercise capacity in patients with AAA.]
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The effectiveness of electronic health interventions on blood pressure control, self-care behavioural outcomes and psychosocial well-being in patients with hypertension: A systematic review and meta-analysis.
[eHealth interventions positively affect blood pressure control and could be a promising alternative in the management of hypertension. However, their effectiveness on self-care behaviour change and psychosocial well-being is insufficient. Therefore, additional eHealth interventions with rigorous experimental design on hypertension self-care are needed to provide a robust evidence for a wide population and to address the increasing health care needs of patients with hypertension.]
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Taylor CJ. *BMJ* 2019;364:l223.
[To report reliable estimates of short term and long term survival rates for people with a diagnosis of heart failure and to assess trends over time by year of diagnosis, hospital admission, and socioeconomic group.]

**Uncertainty surrounds anticoagulation risks and benefits in patients with chronic kidney disease with atrial fibrillation.**
[The present study adds to the uncertainty surrounding the use of anticoagulation for AF in patients with CKD. There are now three large retrospective studies that have found inconsistent results in this population regarding stroke prevention, haemorrhage risks and overall survival, with no clear signal of benefit. This re-emphasises the need for prospective trials examining the role of anticoagulation for AF in patients with CKD.]

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**Guidelines**

*The following new guidance has recently been published:*

**Management and Transfer of Patients with a Diagnosis of Ruptured Abdominal Aortic Aneurysm to a Specialist Vascular Centre**
Royal College of Emergency Medicine (RCEM);2019.
https://www.rcem.ac.uk/docs/RCEM%20Guidance/RCEM_BPC_rAAA_220119%20FINAL.pdf
[This guideline aims to ensure patients with a clinical diagnosis of rAAA equity of access to a specialist vascular centre for expert assessment and intervention. This guideline should optimise and standardise the management of patients arriving in vascular centres, ensuring patients who would benefit from surgery are transferred without delay and those not suitable for surgery, and likely to die, are palliated appropriately.]

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