Our panel of experts highlight the most important research articles across the spectrum of topics relevant to the field of clinical practice.

**Expert panel:** Robert S Dieter, Vascular & Endovascular Medicine, Loyola University Medical Center, IL, USA; Joseph Blondeau, Royal University Hospital, Saskatoon, Saskatchewan, Canada; Bradford A Perez, Duke University Hospital, Durham, NC, USA; Brian Czito, Duke University Hospital, Durham, NC, USA


As transcatheter aortic valve replacement gains wider acceptance, its clinical indications will continue to expand. The bicuspid aortic valve presents morphological challenges for the implantation of a transcatheter aortic valve and the clinical outcomes have varied. In this study, the investigators compared the outcomes of transcatheter aortic valve replacement based upon valve morphology. They found that the outcomes were similar between the bicuspid and the tricuspid aortic valve patients. This is an important study that will hopefully help expand the use of transcatheter aortic valve replacement for a wider spectrum of valvular morphologies.

– Written by Robert Dieter


There has been considerable literature published on the outcomes of percutaneous coronary intervention based upon procedural volume for both the individual operator as well as the institution. In the current iteration and update of the ACCF/AHA/SCAI clinical competence on coronary interventions, the authors have shifted the standard from 75 annual percutaneous coronary interventions down to 50 percutaneous coronary interventions. They base this decision on the declining overall volumes of percutaneous coronary interventions, increasing safety of the procedure, advances in equipment and patient selection. Hopefully, these current standards will reflect favorably in patient outcomes as we move forward.

– Written by Robert Dieter
Invasive *Aedes* species mosquitoes (*A. albopictus*, *A. aegypti*, *A. japonicus*, *A. atropalpus* and *A. koreicus*) are known to be established in Europe and have been associated with the transmission of mosquito-borne diseases including chikungunya (Italy, 2007) and dengue fever (France, 2007; Madeira 2012–2013). Invasive mosquitoes colonize new territories and, through disease transmission, impact human and animal health, the environment and clearly the economy. International travel and trade may serve to increase the potential introduction of new mosquitoes to naive areas. This article reviews the public health significance of invasive mosquitoes and mosquito-borne diseases, and reviews documented cases/outbreaks in Mediterranean and European regions. Additionally, the article comments on the potential growing threat the mosquito-borne diseases may pose to Europe. Intervention to eliminate vectors has worked in some areas but is likely dependent on how successfully established the vectors are and how they can continue to survive and propagate.

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Nosocomial bloodstream infections are most often related to vascular catheters and are associated with significant morbidity and mortality, along with substantial costs to healthcare programs. Considerable effort and resources have been invested into understanding the variables leading to catheter-related blood stream infections. Freixas *et al.*, in a multicenter study, implemented interventions in an attempt to impact on blood stream infections. The interventions consisted of practices related to catheter insertion and maintenance, healthcare worker training, point prevalence surveys and feedback reports. Results suggest intervention programs may substantially impact patient safety by reducing catheter-associated bloodstream infections. As with all studies, this study has limitations including not being randomized. Despite limitations, interventions that positively impact patient care and safety are worthy of further consideration.

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The optimal treatment of locally advanced pancreatic cancer remains controversial. Early phase studies demonstrated favorable outcomes comparing gemcitabine-based chemoradiotherapy with standard fluorouracil-based chemoradiotherapy [1,2]. The study by Mukherjee *et al.* in *Lancet Oncology* is a Phase II multicenter randomized study including patients with locally advanced, nonmetastatic pancreatic cancer performed in the UK. All patients in this study received three 28-day cycles of induction chemotherapy (gemcitabine 1000 mg/m² on days 1, 8 and 15 plus capecitabine 830 mg/m² twice daily on days 1–21). Following induction chemotherapy, patients with responding or stable disease received capecitabine (830 mg/m² twice-daily) versus gemcitabine (300 mg/m² weekly) each delivered with concurrent radiotherapy (50.4 Gy in 28 daily fractions). The primary end point of the study was progression-free survival at 9 months, which was higher in the capecitabine group (62.9 vs 51.4%; p = not significant). Additionally, median overall survival was improved in the capecitabine group (15.2 vs 13.4 months; p = 0.025). Importantly, overall grade 3/4 toxicity appeared improved in the capecitabine group (12 vs 37%) and more patients receiving concurrent capecitabine with radiation were able to complete the prescribed radiotherapy course (75 vs 68%). Given the generally
poor outcomes to be expected in either treatment arm with improved tolerability of capecitabine compared with gemcitabine-based chemoradiotherapy in this study and others [3,4], we agree with the authors that capecitabine-based chemoradiotherapy would be an appropriate template for future radiotherapy studies investigating therapeutic intensification aimed at achieving better long-term control rates in this disease.

– Written by Bradford A Perez and Brian Czito

References


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