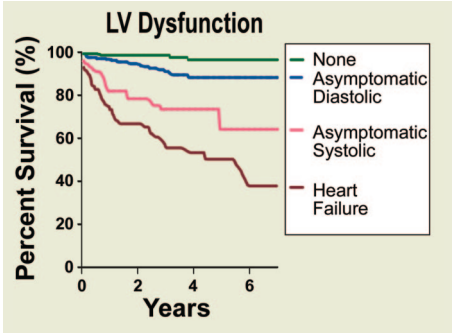
THIS MONTH IN
Anesthesiology

Prognostic Implications of Asymptomatic Left Ventricular (LV) Dysfunction in Patients Undergoing Vascular Surgery 1316

Although multiple perioperative guidelines acknowledge the prognostic value of symptomatic heart failure symptoms on postoperative outcome, the role of asymptomatic LV dysfunction remains unknown. This study used routine echocardiography in patients undergoing open or endovascular surgery to assess these potential prognostic values. Half of all patients had LV dysfunction, of which 80% were asymptomatic. In patients undergoing endovascular surgery (n = 356), only symptomatic heart failure was associated with 30-day cardiovascular events and long-term cardiovascular mortality. However, associations were seen with both asymptomatic systolic and isolated diastolic LV dysfunction in patients undergoing open vascular surgery (n = 649). This study demonstrated that asymptomatic LV dysfunction is predictive for 30-day and long-term cardiovascular outcome in open vascular surgery patients. Preoperative risk stratification should include heart failure symptoms and routine preoperative echocardiography should be considered for risk stratification in open vascular surgery patients. *See the accompanying Editorial View on* **page 1303**



Increased Genomic Copy Number of *DEFA1/DEFA3* Is Associated with Susceptibility to Severe Sepsis in Chinese Han Population 1428

Immune response and genetic predisposition play a role in the pathogenesis of sepsis. Specifically, human neutrophil peptides 1–3, endogenous cationic antimicrobial peptides, have been implicated in host defense against microbes. The genes encoding these human peptides (*DEFA1/DEFA3*) exhibit copy number variations. To evaluate the role of copy number variation on infection complication susceptibility, a case–control study was first performed in 179 patients with severe sepsis and 233 healthy blood donors, and then replicated in an independent cohort of 112 cases and 118 controls. Compared with controls, patients with sepsis were more likely to have high copy number (more than 8) of *DEFA1/DEFA3*; this held true after adjustment for age and gender. Results were replicated in a second age- and gender-matched case–control cohort. Furthermore, patients with large copy number had significantly lower plasma levels of human neutrophil peptides 1–3, tumor necrosis factor-α, interleukin-6, and interleukin-10 compared with patients with low copy number. A higher copy number of *DEFA1/DEFA3* (more than 8 copies) was significantly associated with risk of severe sepsis. *See the accompanying Editorial View on* **page 1307**

Pungent General Anesthetics Activate Transient Receptor Potential-A1 (TRPA1) to Produce Hyperalgesia and Neurogenic Bronchoconstriction 1452

Recently, irritant anesthetics were shown to activate peripheral nociceptors, which may contribute to their hyperalgesic actions and adverse effects in the airways. To test if this occurs *via* activation of the excitatory ion channel TRPA1, this study used models of isolated guinea pig bronchi to measure bronchoconstriction during exposure to anesthetics. TRPA1 was activated by exposure to isoflurane and desflurane, but not by the nonirritant volatile anesthetics sevoflurane and halothane. In contrast to nonirritants, isoflurane induced TRPA1-dependent constriction of isolated guinea pig bronchi in mice by a TRPA1-dependent mechanism. In addition to their beneficial effects, general anesthetics also produce excitatory effects such as airway irritation and bronchoconstriction. This study demonstrates that activation of TRPA1 may contribute to these adverse effects. *See the accompanying Editorial View on* **page 1309**