

Conclusions: Despite a constant number of yearly intact AAA repair, national EVAR utilization increased over the study period. Perioperative mortality was lower after EVAR but there was no difference in long-term survival and no regional differences in mortality for either cohort. In addition, EVAR was performed with a lower hospital cost than OPEN. This large national study further supports the use of EVAR as the first-line therapy for intact AAA.

| | | Midwest | Northeast | South | West | National |
|--------------------|-------|---|-----------|--------|-------|----------|
| Number of patients | OPEN | 10,195 | 6175 | 13,571 | 4722 | 34,663 |
| | EVAR | 18,433 | 13,012 | 28,102 | 8,823 | 68,370 |
| | %EVAR | 64.4% | 67.8% | 67.4% | 65.1% | 66.4% |
| | | <i>P</i> > .001 | | | | |
| 30-mortality | OPEN | 4.9% | 4.8% | 5.0% | 4.6% | 4.9% |
| | EVAR | 2.6% | 1.9% | 2.4% | 2.5% | 1.6% |
| | | <i>P</i> > .001 (OPEN vs EVAR) | | | | |
| 5-year survival | OPEN | 74.4% | 73.8% | 72.7% | 74.1% | 73.6% |
| | EVAR | 75.5% | 73.6% | 74.1% | 75.3% | 74.6% |
| | | <i>P</i> = .4 for OPEN vs EVAR, <i>P</i> = .9 for regions | | | | |

Randomized Clinical Trial of Open-Cell vs Closed-Cell Stents for Carotid Stenting: Effects of Stent Design on Cerebral Embolization

Carlos H. Timaran, Eric B. Rosero, Adriana Higuera, Adriana Ilaraza, J. Gregory Modrall, G. Patrick Clagett, University of Texas, SW Medical Center, Dallas, Tex

Background: The effect of stent design on cerebral embolization has not been established. The purpose of this trial was to contrast the incidence of cerebral embolization in high-risk patients undergoing carotid artery stenting (CAS) with open-cell vs closed-cell stents.

Methods: During an 18-month period, 40 patients were randomized (1:1) to undergo CAS with open-cell (Acculink, n = 20) or closed-cell stents (Xact, n = 20). A single filter device for embolic protection (Accunet filter) was used. Transcranial Doppler (TCD)-detected microembolic signals (MES) during CAS and pre- and 24-hour postprocedural diffusion-weighted magnetic resonance imaging (DW-MRI) were used to determine cerebral embolization. Univariate and nonparametric analyses were used to assess associations between stent design and cerebral embolization.

Results: CAS was performed in 16 (41%) symptomatic and 24 (59%) asymptomatic patients with equal number of open-cell and closed-cell stents (8/8 and 12/12, respectively). The total and poststenting median MES counts detected by TCD were 225 (interquartile range [IQR], 191-257) and 59 (IQR, 43-123) for open-cell stents and 281 (IQR, 134-372) and 74 (IQR, 41-88) for closed-cell stents, respectively (*P* = .4). New acute cerebral emboli detected with DW-MRI occurred in 47% and 53% of patients undergoing CAS with open-cell and closed-cell stents, respectively (*P* = .9). The total and ipsilateral median number of DW-MRI lesions between groups were not statistically significantly different, ie, 1.5 (IQR, 0-3.75) and 1 (IQR, 0-2) for open-cell stents and 2 (IQR, 0-3) and 1 (IQR, 0-3) for closed cell-stents, respectively (*P* = .7). One asymptomatic patient undergoing CAS with an open-cell stent sustained a minor stroke; the 30-day stroke-death rate in this series was 2.5%.

Conclusions: Cerebral embolization, as detected by TCD and DW-MRI, occurs with similar frequency after CAS with open-cell and closed-cell stents. This randomized trial does not support the superiority of any stent design with respect to cerebral embolization.

Timing of Venous Thromboembolism After Colorectal Cancer Resection

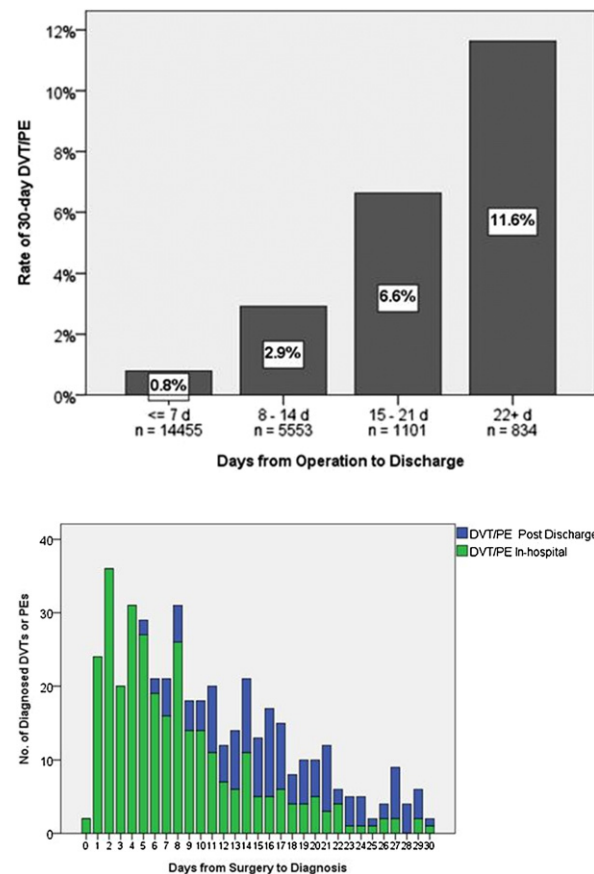
Eleftherios Xenos, Daniel L. Davenport, David J. Minion, Ehab E. Sorial, Shane D. O'Keefe, Eric D. Endean, University of Kentucky Medical Center, Lexington, Ky

Background: Deep vein thrombosis (DVT) and pulmonary embolism (PE) are significant sources of postoperative morbidity and mortality and are currently major quality improvement initiatives. Mechanical and pharmacological prophylaxis is effective in preventing postoperative thromboembolic events, thromboprophylaxis is usually discontinued after discharge. We postulated that patients may still be at risk of venous thromboembolic disease (VTE) after discharge and tested this hypothesis in patients undergoing colorectal resection for cancer, a high-risk population.

Methods: The ACS NSQIP database was queried for patients undergoing colorectal resections for cancer based on the primary procedure CPT code and operative ICD-9 diagnosis code from 2005 to 2008. The outcome analyzed was 30-day DVT and/or PE. DVT/PE occurrences were analyzed by postoperative day, rate relative to hospital length of stay, and by whether they occurred in-hospital or after initial discharge. Multivariable forward stepwise regression (*P* for entry < .05, for exit > .10) was used to identify independent predictors of DVT.

Results: The database contained 21,943 colorectal cancer resections. DVT/PE (both inpatient and outpatient) rates increased linearly from 0.8% in patients with length of stay (LOS) less than 1 week to 11.6% in patients with LOS greater than 3 weeks (χ^2 test for linear trend, *P* < .001, Fig 1). The DVT rate was 1.4% (306/21,943) of which 29% (89/306) were diagnosed post discharge. The PE rate 0.8% (180/21,943) of which 33% (60/180) were diagnosed post discharge. Patients were diagnosed with both only 40 times and the combined DVT or PE rate was 2.0% (446/21,943). The ratio of outpatient to inpatient VTE rate as related to days that elapsed from the surgical procedure is shown in Figure 2. Independent risk factors for postdischarge DVT/PE were preoperative steroid use for chronic condition (n = 575, odds ratio 2.90, 95% CI 1.51-5.57, *P* = .001) and preoperative systemic inflammatory response syndrome (n = 875, odds ratio 2.26, 95% CI 1.24-4.10, *P* = .008)

Conclusions: Analysis of the NSQIP database shows increasing rates of VTE as hospital LOS increases. It was surprising to find that diagnosis of almost 1/3 of postoperative VTE in this patient population occurs after discharge. The duration of the prothrombotic stimulus of surgery is not well defined and patients with malignancy are at high risk of VTE. It is conceivable that thromboprophylaxis after discharge should be considered for these patients. Additional studies may identify other patient groups in similar risk.



Diastolic Function Predicts Survival After Renal Revascularization

Racheed J. Ghanami¹, Hamza Rana¹, Tim Craven¹, Matthew A Corriere², Phillip Moore¹, John Hoyle¹, Randolph L. Geary¹, Matthew S Edwards¹, Christopher J Godshall¹, Kimberley J. Hansen¹, ¹Wake Forest University Baptist Medical Center, Winston-Salem, NC; ²Emory University School of Medicine, Atlanta, Ga

Background: To define the relationship between left ventricular diastolic function and survival after renal revascularization.

Methods: Seventy-six adult patients (49 women, 27 men; mean age: 63 years ± 13 years) with preoperative echocardiography who underwent renal revascularization for atherosclerotic disease were identified. Echocardiograms were performed and interpreted according to American Society of Echocardiography Recommendations for Use of Echocardiography in Clinical Trials. Diastolic function was estimated by measuring the early diastolic