Methods: Three hundred and eighty seven patients undergoing intraoperative epi-aortic ultrasound during CABG were followed for a median of 52 months.
Results: A stroke occurred in 26 (7%) patients. In a univariate analysis, the significant predictors of stroke were age greater than 70 years ($p=0.007$), preoperative unstable angina ($p=0.031$), chronic obstructive pulmonary disease ($p=0.009$), carotid artery disease ($p<0.001$), preoperative history of neurologic events ($p<0.001$), and a maximum ascending aortic wall thickness of 4 mm or greater ($p=0.010$). On multivariate analysis, preoperative history of neurologic events ($p=0.021$) was the only independent risk factor.
Conclusions: The researchers concluded that patients with ascending aortic atherosclerosis, older age (≥70 years), preoperative unstable angina, chronic obstructive pulmonary disease, and carotid artery disease were at risk for late postoperative stroke after CABG.
Perspective: The investigators attempted to define causes of long-term stroke after CABG. Some of the predictors of stroke in this population were similar to those in the general population (age, prior history of neurological events, carotid disease). However, the study was underpowered given the small number of events. The incidence of stroke in this population is high, and there is clearly a need to better define the factors associated with its occurrence. Further, it is not clear whether the current therapies targeted at reducing cardiac morbidity and mortality are also efficacious at reducing the hazard of stroke in this population. Hitinder Gurm

Open Repair Versus Endovascular Treatment for Asymptomatic Popliteal Artery Aneurysm: Results of a Prospective Randomized Study

Antonello M, Frigatti P, Battocchio P, et al. J Vasc Surg 2005;42:185–93.

Study Question: What is the relative risk/benefit of treating popliteal artery aneurysms with open repair versus endovascular treatment?
Methods: In a prospective randomized single-center study, 30 patients with popliteal aneurysms suitable for endovascular therapy were randomized either to endovascular therapy using the Hemobahn graft or surgical therapy in the form of bypass and aneurysm exclusion with direct endoaneurysmorrhaphy. Inclusion criteria were a popliteal artery aneurysm with a diameter ≥2 cm by CT angiography, and proximal and distal neck of the aneurysm with a length of >1 cm to offer a secure site of fixation of the stent graft. Exclusion criteria were age <50 years old, poor distal runoff, contraindication to antiplatelet, anticoagulant, or thrombolytic therapy, and symptoms of nerve and vein compression.
Results: Endograft thrombosis occurred in one patient in the postoperative period. The mean follow-up period was 46.1 months for surgical repair and 45.9 months for endovascular therapy. The primary patency of the surgical group was 100% at 12 months and 81.8% at 48 months versus 86.7% at 12 months and 80% at 48 months with endovascular therapy. The secondary patency rate at 48 months was 81.8% with surgical therapy and 100% with stent grafting. None of these differences were statistically significant. The mean operation time (surgery, 155.3 min; stent graft, 75.4 min) and hospital stay (surgery, 7.7 days; stent graft, 4.3 days) were statistically longer for surgery compared with endovascular therapy ($p<0.01$).
Conclusions: The investigators concluded that popliteal artery aneurysms can be safely treated with either surgical or endovascular repair.
Perspective: The researchers are to be commended for attempting to do a controlled trial for an uncommon disease. Endovascular treatment of popliteal artery is complicated by the complex flexion and torsion forces that are imparted on the stent graft in this region. While it would be premature to comment on superiority or equivalence of either technique, the investigators achieved good long-term outcome with endovascular treatment. Long-term graft patency in this study was better than that previously reported and suggests that careful patient selection and meticulous attention to technique (such as use of dual antiplatelet agents and embolisation of collateral vessels) may provide good long-term results in carefully selected patients with popliteal aneurysms. Hitinder Gurm

Infrarenal Abdominal Aortic Aneurysm Repair via Endovascular Versus Open Retroperitoneal Approach

Mehta M, Roddy SP, Darling RC, et al. Ann Vasc Surg 2005;19:374–78.

Study Question: What is the short-term outcome of infrarenal abdominal aortic aneurysm (AAA) repair via an endovascular approach with that of an open retroperitoneal approach?
Methods: From October 2001 to April 2003, patients with infrarenal AAA >5 cm were offered repair via an endovascular approach (group I) with a variety of industry-made stent grafts or via an open retroperitoneal surgical approach (group II). High-risk patients were offered endovascular repair, and lower-risk patients were offered either open or endovascular repair. Data were prospectively collected and complications analyzed. Data comparison between the two groups was done using chi-square analysis and two-tailed Student *t-test*. Statistical significance was identified at $p<0.05$. The mean follow-up for groups I and II was 18 (range, 12–30) months and 19 (range, 12–30) months, respectively.
Results: Over an 18-month period, 492 patients underwent evaluation for AAA. Of these, 446 patients had infrarenal AAA and underwent either endovascular repair (group I: n=175, male 85%, female 15%) or open surgical repair