

Objectives: To review a single-center experience in the treatment of ruptured abdominal aortic aneurysms (RAAAs) in a 32-year period.

Methods: A retrospective review of consecutive patients with the diagnosis of RAAA between 1980 and 2012 was performed. Clinical variables affecting outcomes and mortality (30-day and in-hospital combined) were analyzed.

Results: A total of 611 patients (497 males, 114 females) with a mean age of 74 years (range, 34-100 years) were reviewed. Forty patients (7%) died before intervention, and nine (1%) declined research review. Of the remaining 562, endovascular aneurysm repair (EVAR) was performed in 35 (6%) patients and open repair (OR) in 527 (94%). The patients were analyzed by treatment period: Group G1 comprised 213 patients (38%) treated between 1980 and 1989; G2, 191 (34%) patients treated from 1990 to 1999; and G3, 158 (28%) patients treated between 2000 and 2012. The 30-day/in-hospital mortality was 45% in G1, 36% in G2, and 26% in G3 ($P = .003$; G3 vs G2 vs G1). A significant decrease in the mean length of stay was found in the last 10 years (G1, 25; G2, 26; G3, 16 days; $P = .007$). Multivariate analysis demonstrated a 1.5-fold increase in the risk of mortality ($P = .002$), and a 1.4-fold increase risk of in-hospital complications for every 10 years of age ($P < .008$). Increased Apache II score results in a 1.1-fold increase of mortality and in-hospital complications ($P < .0001$; confidence limits 1.068-1.152). EVAR decreases the risk of mortality ($P = .05$), but not the risk of in-hospital complications.

Conclusions: Despite the improvement over the past decades and the advent of EVAR, RAAA still results in a high risk of death and complications. Age and high APACHE II scores were associated with poor outcomes. EVAR for RAAA improves mortality, but still results in significant morbidity.

Natural History of Bilateral Internal Carotid Artery Occlusion

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Objective: Bilateral internal carotid artery occlusions (BICAO) occlusions are rare. We describe the natural history.

Methods: Retrospective review of 30,812 carotid duplex examinations performed over 12 years yielded a cohort of 45 patients (pts) who had BICAO. Data was collected till the primary end point of death or secondary end points of stroke or myocardial infarction (MI). In those with BICAO, multivariate analysis evaluated the association of age, smoking, use of antiplatelets or anticoagulants, patency of external carotid artery and vertebral arteries with the primary and secondary end-points. Fisher exact test was used to analyze heterogeneity between survivors and nonsurvivors. Kaplan-Meier survival analyses estimated event rates of death, stroke, and MI.

Results: Prevalence of BICAO in this series was 0.15% with male predominance (95%). Mean age at diagnosis was 72 ± 11 years, and mean follow-up was 31 months. There were no differences in comorbidities between survivors and nonsurvivors. Freedom from death at years 1, 3, and 5 was 76%, 64%, and 53%, and for stroke and MI, it was 89%, 87%,

and 84%, and 71%, 69%, and 67%, respectively. Survival favored pts on single antiplatelet (odds ratio [OR], 0.67; $P = .008$) or with combination of anti-coagulation (OR, 0.67; $P = .018$). Although not reaching significance, pts who had stroke (OR, 1.07; $P = .653$) or MI (OR, 1.25; $P = .190$) had poorer survival. There was no significant association between patency of external carotid artery or vertebral arteries ($P = .744$) and death, stroke, or MI.

Conclusions: A diagnosis of BICAO is associated with poor long term survival. In this series, survival was better with use of antiplatelets or with combination of anticoagulants.

A Novel Two-Stage HeRO Graft Implantation Technique that Avoids the Use of a Femoral Bridging Hemodialysis Catheter in Selected Patients

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For patients with no adequate upper extremity peripheral venous outflow, the Hemodialysis Reliable Outflow (HeRO) graft can provide an opportunity for an upper extremity subcutaneous arteriovenous (AV) dialysis graft. However, in the subset of patients who have an internal jugular vein (IJV) catheter and contralateral central venous occlusion, a femoral bridging catheter, which carries a high infection burden, is required during the graft incorporation. Short of using an immediately cannulatable AV graft sewn to a HeRO coupling device, we present here a novel two-stage HeRO graft implantation technique that avoids the use of a femoral bridging catheter in this subset of patients. The first stage of this technique is to implant the ePTFE component (EC). The EC is tunneled subcutaneously in the upper arm ipsilateral to a concurrent IJV catheter in a gentle curve or loop, from the arterial anastomosis incision site to the connector incision site in the deltoid area. Then, instead of anastomosing to the target artery, the proximal arterial end of the EC is folded over and placed in the subcutaneous tissue. The preexisting IJV catheter is maintained to provide continuous dialysis access. The second stage of the operation is initiated in 3 to 4 weeks by reopening the arterial incision site with dissection to free the target artery. The connector incision site is also reopened to dissect this end free. Next, the EC arterial end within the subcutaneous tissue is unfolded, thrombectomized, irrigated, and anastomosed to the freed target artery. The chest wall catheter is then freed up from its exit site, and the jugular entrance site is opened. After clamping the catheter at the entrance site, it is transected, and the external part is cleared from the field. A stiff wire is then placed through the remaining part of the catheter and the residual catheter is removed. In the following step, the venous outflow component, which is tunneled from the IJV site to the EC connector site, is placed through the peel-away sheath until its tip is located at the cavo-atrial junction. Finally, the distal portion of the venous outflow component is attached to the ePTFE graft in the standard fashion, completing the HeRO graft implantation in two stages without using a femoral bridging catheter.

Combined Coronary Artery Bypass and Open Repair of Abdominal Aortic Aneurysm

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Objectives: The coexistence of symptomatic abdominal aortic aneurysm (AAA) and coronary artery disease (CAD) is not uncommon. In most cases, coronary revascularization with angioplasty or bypass (CABG) is performed before AAA repair to reduce the risk of cardiac morbidity. The purpose of this was to review the management of patients with symptomatic large AAA and coronary artery disease.

Methods: A retrospective chart review of two patients with symptomatic coronary artery disease and >9 cm AAA managed using a combined approach.

Results: A 60-year-old man presented with a 9.2 centimeter AAA and severe CAD and a 73-year-old man with a 9.0-centimeter AAA. Both patients underwent combined CABG and open AAA repair. Operative times were 400 and 373 minutes, respectively. Neither experienced any postoperative complications, such as renal failure, respiratory failure, bleeding, or infection, despite a number of medical comorbidities and decades of tobacco use. Both men are alive and well at 8 and 9 years respectively.

Conclusions: In special circumstances, patients with large AAA and severe CAD can be considered for combined repair. We report two such cases treated successfully with excellent long-term results.

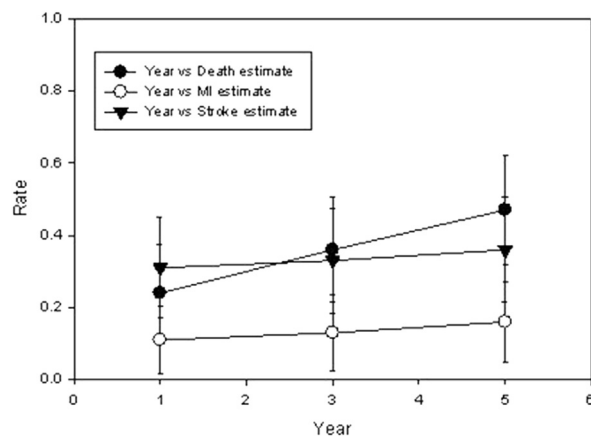


Fig.