RR22.

Neoaortoiliac System (NAIS) for Failed Aortic Reconstructions: A Durable Solution in Young Patients

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Objective: Failure of prosthetic aortofemoral bypass (AFB) in young patients is a difficult problem that requires complex re-interventions with high rates of failure leading to major amputation. We hypothesize that neoaortoiliac system (NAIS) reconstruction improves patency and limb salvage in these patients.

Methods: 16 patients with a median age of 53 (interquartile range (IQR), 48-60) years were identified from our prospectively gathered registry with failed AFB treated by NAIS reconstruction from April 1997 to April 2008. The patency rate and outcome of the original AFB was compared to the patency rate and outcome following subsequent NAIS reconstruction in a paired analysis. Survival analysis with log-rank comparisons test was used to construct Kaplan-Meier life tables. Patients with evidence of graft infection were excluded.

Results: The median number of interventions after AFB was 1.26 (IQR 0.3-3.2) including thromboendarterectomy (n=4), thrombectomy (n=4), thrombolysis (n=4), saphenous vein when it is absent, unsuitable or of poor quality. Before reoperative surgery was considered. Prior to NAIS, all patients had critical limb ischemia with median ankle brachial indices of 0.40 (IQR 0.3-2.3) and preoperative clinical status (p=0.04) of poor runoff score (p=0.03, 95% CI 0.28-0.94), poor runoff score (p=0.006, 95% CI 1.7-7.2) and severe claudication clinical status (p=0.05; 95% CI 0.9-3.2) were independently associated with lower limb salvage rates.

Conclusions: The use of a heparin-bonded ePTFE graft provides good early and mid-term results, with low rates of late amputations. Primary and secondary patency make this graft an excellent alternative to autologous saphenous vein when it is absent, unsuitable or of poor quality.

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RR24.

Improving the Power of the ASA Classification System to Risk Stratify Vascular Surgery Patients: The NSQIP-Defined Functional Status

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Background: Recent publications have shown that the American Society of Anesthesiology (ASA) classification system has limited applicability in vascular surgery patients. The majority of patients undergoing vascular procedures are designated ASA III. The National Surgical Quality Improvement Project (NSQIP) demonstrated that functional status is a strong predictor of mortality. Dividing ASA class III into two subgroups, based on NSQIP functional status, improves the predictive value of the ASA scheme.

Results: The 2007 NSQIP database was queried for ASA class III patients having undergone vascular surgery procedures numbered 11555. Of those 9913 (85.7%) patients were independent (IIIA), and 1642 (14.3%) were dependent (IIIB). Mean 30-day survival rates were 95.9% in subgroup IIIA, and 92.2% in IIIB (log-rank p<0.0001). The risk of NSQIP postoperative complications increased 1.27-1.49, octogenarians (OR 1.47, 95% CI 1.17-1.80), blacks (OR 1.38, 95% CI 1.27-1.49) remained more likely to develop postoperative infectious complications.

Conclusions: Infectious complications after elective open AAA surgery occur at a significant rate and are more common in females, blacks, and the aged. Smaller hospital size was associated with higher infectious complications after open AAA repair. Further implementation of Leapfrog volume standards may prevent numerous infectious complications after elective open AAA repair.

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RR23.

Infectious Complications after Elective Open AAA Repair: Impact of Leapfrog Volume Criteria, Hospital Characteristics, and Patient Demographics


Objectives: Nosocomial infections after surgery are associated with increased morbidity, mortality, length of hospital stay, and healthcare costs. We analyzed hospital and patient characteristics associated with infectious complications after elective open abdominal aortic aneurysm (AAA) repair.

Methods: The Nationwide Inpatient Sample 2002-2006 was analyzed for elective non-ruptured open AAA repairs with respect to nosocomial infectious complications including pneumonia (PNA), urinary tract infections (UTI), postoperative sepsis, surgical site infections (SSI), and cardiovascular complications. Patient and hospital characteristics as well as Leapfrog volume criteria were evaluated and their associations with nosocomial infections were assessed.

Results: Open AAA repairs (46,323) had an overall infectious complication rate of 12.02%. PNA (6.62%) represented the greatest postoperative infection followed by UTI (2.38%), sepsis (1.85%), and wound infections (1.08%). Infection rates were associated with increasing age (p<0.001), black race (p=0.04 versus whites), and female gender (p<0.001), but not associated with hospital teaching status (p=0.33) or geographic location (p=0.18). A trend of decreasing postoperative infectious rates after open AAA repair was associated with increasing hospital bed size (p=0.019). Hospitals meeting Leapfrog volume criteria had lower overall rates of infectious complications (p=0.012), including PNA (p=0.0005), and sepsis (p=0.041). Hospitals not meeting Leapfrog criteria were 1.18 as likely to develop PNA (95%CI = 1.08-1.30) and 1.16 as likely to develop sepsis (95%CI = 1.01-1.34). After adjustment for age, race, gender, and comorbidities, octogenarians (OR=1.63; 95% CI=1.47-1.80), blacks (OR=1.43; 95% CI=1.17-1.75), and females (OR=1.38; 95% CI=1.27-1.49) remained more likely to develop postoperative infectious complications.

Conclusions: Infectious complications after elective open AAA surgery occur at a significant rate and are more common in females, blacks, and the aged. Smaller hospital size was associated with higher infectious complications after open AAA repair. Further implementation of Leapfrog volume standards may prevent numerous infectious complications after elective open AAA repair.

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