

Objectives: To identify the impact of lower extremity revascularization or amputation on 30-day mortality in patients with preoperative do not resuscitate orders documented.

Methods: Patients were identified from the 2005-2008 ACS NSQIP datafile using CPT codes. Group-wise comparisons based on DNR status were performed using t-tests and X². Associations between preoperative DNR status, operative management (categorically evaluated as revascularization versus amputation), and mortality were evaluated using logistic regression.

Results: 15,541 operations were identified, of which 9417 were revascularizations and 6,124 were major amputations. 526 patients were DNR (1.1% of revascularizations; 6.8% of amputations). DNR patients were older and had a greater prevalence of preoperative comorbid conditions and abnormal laboratory data. Perioperative mortality was 22.2% for DNR versus 5% for non-DNR patients [univariate OR (95% CI) for DNR status: 5.4 (4.4-6.6); P<0.0001]. Multivariable modeling adjusting for preoperative differences in demographic, comorbidity, and laboratory data revealed an interaction between DNR status and procedural management (P=0.0013). DNR status was associated with increased mortality risk following both revascularization [Estimated(OR)(95% CI):4.9 (2.9-8.3)] and amputation [Estimated (OR)(95% CI):1.9 (1.4-2.5)].

Conclusions: DNR patients are at increased risk for perioperative mortality following both lower extremity amputation and revascularization, and this association between DNR status and mortality persists after adjusting for differences in other risk factors. The differential effect on mortality risk based on procedural management implies greater risk for DNR patients undergoing revascularization, but may reflect the influence of DNR status on procedure selection given greater prevalence of DNR status among these patients. DNR status should be considered during preoperative risk assessment and may inform preoperative counseling and decision making.

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PS106.

Transplantation of Purified CD34+ Cells from Peripheral Blood in Treatment of No-option Critical Limb Ischemia: A Pilot Study

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Objectives: To evaluate the safety and efficacy of transplantation of purified peripheral blood CD34+ cells in treatment of no-option critical limb ischemia (NOCLI).

Methods: From May 2009 to Nov. 2010, 15 NOCLI cases were included, 11 with thromboangitis, 2 atherosclerosis obliterans, and 2 vasculitis, mean age 44±15years. G-CSF was subcutaneously injected for 5 days before apheresis. CD34+ cells were isolated with CliniMACS system, and then intramuscularly injected into calf and foot.

Results: Technical success was achieved in all cases. Major amputation was performed in 2 cases postoperatively, and the salvage rate was 87%. The mean number of transplanted cells was (7.84±4.17) ×10⁵/kg. The follow-up was accomplished in all cases, ranging from 1-19 months (mean 8±5months). One month after transplantation, the rest pain was obviously relieved in 11 cases, and the Wong-Baker FACES pain rating scale score significantly decreased from 7±2 to 1±1, P=0.0000. At 6 months, the pain-free walking distance on treadmill measured in 8 eligible cases was significantly improved from 3.0±3.0 min to 17.9±10.6 min (P=0.001); the ankle-brachial index increased from 0.45±0.22 to 0.69±0.13 (P=0.007); transcutaneous partial oxygen pressure rose from 29±12mmHg to 57±9mmHg (P=0.0002). Of 9 cases with the foot ulcer, it was healed in 6 patients at 4±3months and apparently shrank in 3. No serious complications were observed either perioperatively or during the follow-up.

Conclusions: Transplantation of purified peripheral blood CD34+ cells appeared to be safe and effective in treatment of NOCLI, and mid-to-long-term results is pending further investigation.

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PS108.

A Meta-Analysis of the Outcomes of 8,550 Patients Comparing Open surgical and Endovascular Treatment for Aorto-Iliac Occlusive Disease

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Objectives: Treatment options for aorto-ilac occlusive disease (AIOD) include open and endovascular treatment. We performed a meta-analysis of studies reporting the treatment outcomes for AIOD.

Methods: Peer-reviewed published studies on open and endovascular treatment for AIOD since 1989 were identified in PubMed, Medline, and EBSCOHost. Reports were thoroughly analyzed, and those not meeting the pre-defined inclusion criteria were excluded.

Results: Thirty-seven open studies with 6,618 patients and 31 endovascular studies with 1,932 patients were included in our analysis. Mean age was 60.7 years for open and 60.5 years for endovascular patients. More patients presented with critical limb ischemia in the open group (35.5% vs. 23.6%, Odds Ratio [OR]: 1.8, $p < 0.001$) than with claudication (65.6% vs. 76.2%, OR: 0.6, $p < 0.001$). Mean overall follow-up time in months was greater in the open than endovascular group (42.2 vs. 26.2, $p = 0.001$). Poor preoperative runoff was greater in the open group (47.1% vs. 25.0%, OR: 2.8, $p < 0.001$). No differences in length of hospital stay (LOS) or increase in ankle-brachial index were detected. The open group experienced more systemic (9.5% vs. 3.5%, OR: 2.9, $p < 0.001$) than local complications (4.6% vs. 13.3%, OR: 0.3, $p < 0.001$). Mortality was greater in the open group (2.6% vs. 0.5%, OR: 5.3, $p < 0.001$), and secondary procedures were required less frequently (4.1% vs. 8.5%, OR: 0.5, $p < 0.001$). Primary patency rates at 1, 3, and 5 years were greater in the open group (94.8% vs. 85.7%, OR: 3.0, $p < 0.001$; 87.7% vs. 78.9%, OR: 1.6, $p < 0.001$; 86.2% vs. 69.5%, OR: 2.4, $p < 0.001$, respectively).

Conclusions: To our knowledge, this is the first systematic review comparing open and endovascular treatment options for AIOD. These results demonstrate superior durability and equivalent LOS for open treatment with an increased risk for systemic complications and mortality when compared to the endovascular approach. Further clinical studies are necessary to better characterize these two treatment options.

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PS110.

Catheter-Directed Thrombolysis as First Line Treatment of Acute Nontraumatic Upper Extremity Ischemia

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Objectives: Acute upper extremity ischemia is associated with substantial functional impairment. For many years, surgical intervention has been the treatment of choice, but perioperative mortality is up to 19%. Reports on primary thrombolysis to treat acute upper extremity ischemia are scarce.

Methods: During a 4-year period all patients with acute nontraumatic upper extremity ischemia (Rutherford class I or 2a) undergoing catheter-directed thrombolysis as

first line treatment were identified. One month follow-up consisted of duplex-scanning of the treated arm.

Results: From 2006 to 2010, 28 patients (22 women, median age 60 years, range 33-80) were treated with thrombolysis for acute upper extremity ischemia. Occlusions were localised as follows: subclavian artery (n=8), brachial artery (n=6), radial and/or ulnar arteries (n=11), bypass graft (n=3). Length of the occlusions was more than 8 cm. Causes of occlusion were thromboembolic (n=15), arterial thoracic outlet syndrome (n=4), paraneoplastic (n=1), and unknown (n=8). Placement of a thrombolysis catheter was unsuccessful in only 1 out of 28 patients. Median duration of thrombolysis was 24 hours (18-96). In 17 out of 28 patients complete lysis was achieved, with complete resolution of symptoms. In 4 patients partial lysis was achieved; these patients were asymptomatic and therefore treated conservatively. In 7 patients no lysis was achieved; these were treated with embolectomy (n=4), amputation (n=2), and conservatively (n=1). During thrombolysis 1 patient had a thromboembolic complication of the lower limb, that was treated successfully with thrombolysis and 1 had a transient ischemic attack.

At 1-month follow-up 2 reocclusions had occurred, that were treated successfully with percutaneous transluminal angioplasty (n=1) and thrombolysis (n=1).

Conclusions: Based on our results catheter-directed thrombolysis is effective and safe as first line treatment of acute nontraumatic upper extremity ischemia, in order to prevent or limit surgical intervention.

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PS112.

Percutaneous Interventions for CLI: The Dreadful Effects of ESRD on Diabetic Patients

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Objectives: This study assesses the effects of end stage renal disease (ESRD) on diabetic patients undergoing percutaneous interventions for critical limb ischemia (CLI).

Methods: Eighty-three diabetic patients (15 with ESRD) requiring infrainguinal interventions were studied. Diabetics with and without ESRD were compared over 24 months. Statistical analysis was conducted with SPSS software (SPSS Inc. Chicago, IL).

Results: Diabetic patients with ESRD presented with CLI at an earlier age (64.5 vs. 71.8 years, $p = 0.012$) and