in patients with obstructive aorto-iliac diseases, representing an effective solution in complex anatomic variants.

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C6i: Poster Session—Vascular Trauma; Venous Disease; Vascular Medicine

PS146.

Patterns and Management of Blunt Iliac Arterial Injuries

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Objectives: Blunt iliac arterial injuries (BIAI) involve complex management, but are rare and poorly studied.

Methods: We identified 112 patients with BIAI admitted between 2000-2011 from our registry. Twenty-four had common/extrinsic iliac artery injuries (CE group), and 88 involved the hypogastric or internal iliac branch arteries (IB group). Demographics, management and outcomes were compared between groups.

Results: CE and IB patients were similar in age (42 ± 15 vs 46 ± 19 years; P = .46) and gender (83% vs 75% male; P = .32). Mean injury severity score was 40 ± 14 (CE, 36 ± 15; IB, 40 ± 14; P = .19), indicating severe trauma. CE patients had a higher rate of crush mechanism of injury (38% vs 17%; P = .03) and open pelvic wounds (50% vs 15%; P < .01). Rates of major pelvic fractures (79% vs 64%; P = .21), visceral organ injuries (54% vs 48%; P = .61) and genitourinary tract injuries (46% vs 29%; P = .11) were similar between groups. Overall inpatient mortality was 40% (CE, 50%; IB, 36%; P = .24). However, CE patients had higher mortality within 3 hours of admission (50% vs 19%; P = .04) and prior to iliac intervention (42% vs 3%; P < .01). 5 patients were observed without complication (CE, 17%; IB, 1%; P < .01). CE patients had more open (54% vs 3%; P < .01) and fewer endovascular (8% vs 95%; P < .01) interventions compared to IB patients. CE procedures included eight bypasses, three primary repairs, two ligations and two endovascular procedures. IB patients had three open hypogastric ligations, 14 hypogastric coilsings and 74 branch embolizations. CE patients had a higher rate of leg amputations (46% vs 5%; P < .01), with 8/11 (73%) culminating in hemipelvectomy.

Conclusions: This is the largest series to date of major BIAI. Blunt CE injuries are specifically associated with serious open pelvic soft tissue injury, and are a marker of high risk for early death and leg amputation. Most CE injuries were treated with open surgery, however, there may be a role for emergency endovascular management given their location and distribution.

Author Disclosures: M. L. Brenner: Nothing to disclose; R. S. Crawford: Nothing to disclose; C. B. Drucker: Nothing to disclose; D. G. Harris: Nothing to disclose; M. Narayan: Nothing to disclose; R. Sarkar: Nothing to disclose; T. M. Scalea: Nothing to disclose.

PS148.

Iatrogenic Major Venous Injury Increases the Morbidity of Aortic Reconstruction


Objectives: Major venous injury during open Aortic reconstruction is uncommon but can negatively impact its results. Few studies document early and late results of such injuries; this was the aim of this study.

Methods: From 1981 to 2012, 1217 patients underwent Aortic reconstructions, open abdominal aortic aneurysm (AAA)/iliac aneurysm repair in 764 (130 ruptured/634 intact), Aortofemoral grafting (AFG) in 224 (redo, six) and Endovascular AAA repair with femoral cut down in 229. Sixteen patients with major venous injury were identified. (Sudden loss of more than 500cc of blood). Mortality of intact AAA repair (30 days) of intact aneurysm was 3% and ruptured aneurysms were 46%, AFG 3.1% and EVAR 2.2%. All patients with iliac vein and inferior vena cava injuries had follow up noninvasive venous exam of the lower extremity.

Results: Sixteen major venous injuries occurred during Aortic reconstruction. Inferior vena cava (IVC) injury two, iliac vein eight, femoral vein two, left renal vein (LRV) four (including posterior renal collar vein, one) instances. Six injuries (out of 130) occurred following ruptured AAA repair and seven injuries (out of 634) following intact AAA repair (P = .013). Two venous injuries occurred after redo AFB and none after primary ABF (P = .0006). Contributing factor for iliac vein injury included inflammatory AAA = 2, dissection of large iliac

Table.

<table>
<thead>
<tr>
<th>Location</th>
<th>Open AAA repair</th>
<th>AFG</th>
<th>EVAR</th>
<th>Management</th>
<th>Complications</th>
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<tbody>
<tr>
<td></td>
<td>Ruptured</td>
<td>Intact</td>
<td>Primary</td>
<td>Redo</td>
<td>(n = 130)</td>
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<tr>
<td>IVC (2)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Iliac vein (8)</td>
<td>1</td>
<td>6</td>
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<td>1</td>
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<tr>
<td>Femoral vein (2)</td>
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<td>Left renal vein (4)</td>
<td>3</td>
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Aneurysms = 3, tunneling of the graft = 2, and obesity = 1. Intraoperative transfusion requirements were 3 to 28 units (median, 8 units). One patient died (6.2%) secondary to iliac vein injury during repair of ruptured AAA.

Conclusions: Major venous injury is more common during repair of ruptured AAA and redo AFG. Following repair of iliac/femoral vein injury, 44% of surviving patients developed iliofemoral venous thrombosis.

Author Disclosures: S. S. Hans: Nothing to disclose; G. Sachwani-Daswani: Nothing to disclose.

PS150.
Outcomes of Pediatric Vascular Trauma in the Endovascular Era
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Objectives: Vascular injuries in the pediatric population have historically been managed with open surgical repair (OR), though the use of endovascular techniques (EV) has become more common. This study is among the first to compare the outcomes of OR and EV modalities in the management of pediatric vascular trauma.

Methods: A retrospective review was performed of all pediatric patients (age < 18 years) treated over a 9-year study period at an urban trauma center for vascular injury. Patients with iatrogenic or isolated intracranial injuries were excluded.

Results: During the study period, 60 patients suffered a total of 80 traumatic vascular injuries. Though most patients were treated with OR (84%), a significant number were managed with EV (16%). Mechanism, age, injury severity score, anatomic region of injury and time to intervention were comparable between groups. Females, however, were more likely to undergo EV than males (56% vs 17%; P = .02). This difference could not be attributed to injury severity. EV modalities used included embo-lization (77%); stent (15%) or stent-graft (8%) placement. There were no stents placed in patients under 13 years old. After an average follow-up of 6-weeks, analysis revealed no statistically significant differences in amputation rate or mortality between OR and EV, but patients treated with EV were significantly more likely to require reintervention (38% vs 7%; P = .01).

Conclusions: Though the mortality and limb salvage rates between operative and endovascular management of pediatric trauma were comparable, EV treated patients were more likely to require reintervention. EV was also more likely to be chosen as the initial approach in female patients. In properly selected patients, EV modalities can have similar early outcomes to OR in the management of pediatric vascular trauma. Further study is needed to determine any long-term disparity in outcomes.

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PS152.
Do Hospital Quality Comparisons for Venous Thromboembolism Make Sense? Association Between Hospital Characteristics and Publicly Reported VTE Process and Outcome Measure Performances
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Objectives: Venous thromboembolism (VTE) remains a major cause of postoperative morbidity and mortality. Oversight agencies publicly report hospital performance on VTE process of care (SCIP-VTE 1 and 2: prophylaxis order and administration) and outcome metrics (risk-adjusted PSI-12 VTE rate). Our objective was to examine the association between hospital structural characteristics and these measures.

Methods: Hospital PSI-12 and SCIP-VTE data from the CMS Hospital Compare program were linked with American Hospital Association data, which contains information on hospital characteristics. The association between structural factors (hospital size, accreditations, participation in quality improvement initiatives) and PSI-12 and composite SCIP-VTE 1/2 performance was examined. Bivariate and multivariable comparisons focused on hospitals designated as “worse than national rate” for PSI-12 and those in the bottom quartile for SCIP-VTE 1/2 performance.

Results: Hospital performance on SCIP-VTE-1 and SCIP-VTE-2 process measures was highly correlated: 93.3% (P < .001). However, composite SCIP VTE 1/2 performance was only weakly correlated with PSI-12 VTE outcomes: 4.9% (P = .009). Hospitals in the bottom quartile for SCIP-VTE were less likely to be large hospitals (≥300 beds), disseminate quality reports, participate in ACS NSQIP, and have accredited programs (JCAHO, ACGME, Commission on Cancer, Level 1 Trauma, burn, and transplant). Interestingly, hospitals designated with a “worse than national rate” for PSI-12 were more likely to have these structural factors. As the number of accreditations or quality participations increased, adherence to SCIP-VTE increased but PSI-12 performance worsened.

Conclusions: Increased adherence to VTE process measures was not associated with better VTE outcome. Large hospitals with more accreditations, which are typically associated with better outcomes, were instead more likely to have higher VTE rates despite having better adherence to SCIP-VTE process measures.

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PS154.
National Trends in Utilization of IVC Filters over a Decade in the United States, 2000-2009
SreyRam Kuy1, Analhita Dua1, Cheong J. Lee1, Bhavin Patel1, Sapan Desai1, Arshish Dua1, Aniko Szabo1, Parag