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Utilization Of Preoperative Vein Mapping In Patients Undergoing Infra-inguinal Bypass Is Associated With Increased Use Of Venous Conduits

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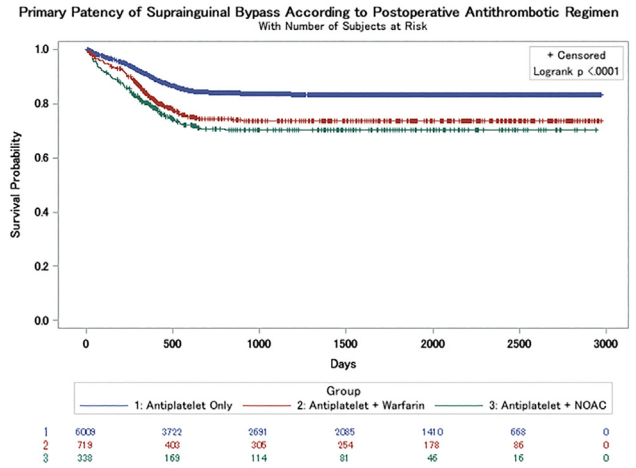

Fig 1. Major adverse limb event (*MALE*)-free survival based on antithrombotic regimen.

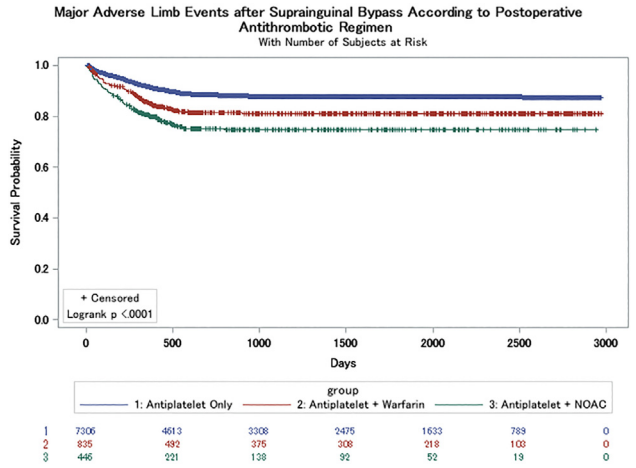

Fig 2. Primary patency rate based on antithrombotic regimen.

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Comparative Analysis Of Outcomes Of Endovascular Aortic Repair And Aortobifemoral Bypass For Aortoiliac Occlusive Disease

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Objective: Aortoiliac occlusive disease (AIOD) has traditionally been treated with aortobifemoral bypass (ABF). Endovascular aortic repair (EVAR) is gaining popularity in selected patients. The objective of this study was to report outcomes of patients undergoing ABF or EVAR for AIOD.

Methods: Patients (2016-2021) undergoing elective ABF or EVAR with a unibody device for AIOD were identified at an academic institution. χ^2 and Kaplan-Meier analysis were used to evaluate outcomes by group.

Results: A total of 131 patients undergoing EVAR or ABF were screened, with 91 included. Twenty-six patients underwent EVAR (28.6%) and 65 underwent ABF (71.4%). EVAR patients were older (65.5 vs 58.4 years; $P = .002$), with more coronary artery disease (42.3 vs 21.5%; $P = .04$) and diabetes (46.2 vs 20%; $P = .001$). Significant differences were seen between EVAR and ABF, including a shorter surgery length (212 vs 359.2 minutes; $P < .0001$), less blood loss (282.8 vs 711.3 mL; $P < .0001$), larger minimum aortic diameter (15.9 vs. 13.1; $P = .0006$), and larger common iliac artery (9.8 vs 8.0; $P = .005$). There were fewer TASC C/D iliac lesions in the EVAR than ABF group (15.4% vs 63.1%; $P < .0001$) but no differences in TASC C/D femoropopliteal lesions. Unadjusted analysis revealed no significant differences between EVAR and ABF for 30-day mortality (0% vs 2.9%; $P = .5$), stroke (0% vs 5.7%; $P = .4$), or major adverse cardiac events (18.2% vs 8.6%; $P = .6$). Mid-term surgical outcomes over a mean follow-up period of 24.5 months between the EVAR and ABF groups for wound infection (10% vs 8.3%; $P = .9$), endovascular (0% vs 16.7%; $P = .2$), or open reintervention (10% vs 20.8%; $P = .5$) was similar. Kaplan-Meier estimated primary patency (Fig 1) was 96% for EVAR and 95% for ABF at 60 months ($P = .2$), and estimated survival was 96% for EVAR and 94% for ABF at 48 months ($P = .7$ and $P = .6$, respectively).

Conclusions: Equivalent outcomes were seen between AIOD treated with EVAR or ABF in similar patient populations. Mid-term outcomes such as reintervention and patency are similarly excellent for EVAR and ABF, even though more complex iliac lesions were treated by ABF. We still recommend ABF over EVAR as a primary modality of treatment in surgically fit patients with greater complexity iliac lesions.

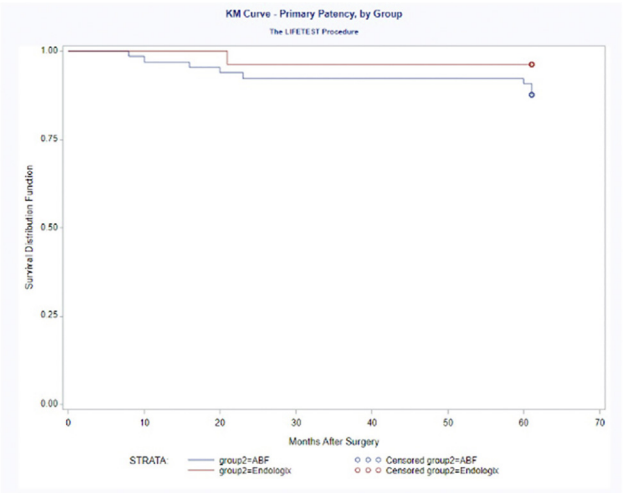

Fig. Kaplan-Meier curve demonstrating primary patency, by group. $P = .2$.

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Utilization Of Preoperative Vein Mapping In Patients Undergoing Infra-inguinal Bypass Is Associated With Increased Use Of Venous Conduits

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Objective: The objective of this study was to determine if preoperative vein mapping (PVM) was associated with increased use of autogenous venous conduits in a real-world registry of lower extremity infra inguinal bypass (IIB).

Methods: A retrospective review of a statewide vascular surgery registry was queried for all patients between 2012 and 2020 who underwent IIB. We excluded trauma patients and patients with acute limb ischemia, and previous lower extremity bypasses. Preoperative and intraoperative variables were analyzed, and postoperative outcomes were correlated with the use of PVM.

Results: A total of 5540 patients were included in the study. The average age was 67 years. Sixty-nine percent of the cohort were male, and 81% were white. PVM was performed on 2532 patients (45%). Patients who underwent PVM were more likely to be white (83% vs 79%; $P < .001$) and have commercial insurance (24% vs 21%; $P = .001$). A venous conduit was significantly more likely to be used in patients who underwent preoperative vein mapping (69% vs 28%; $P < .001$). When looking at patients who underwent IIB with a venous conduit, intraoperative blood loss was significantly less, and 30-day transfusion tended to be lower in patients who had PVM (290 vs 323 mL; $P = .032$; 30% vs 26%; $P = .07$, respectively), although no significant difference was seen with the length of procedure ($P = .44$). Intraoperative angiogram/duplex ultrasonography to establish technical adequacy was more commonly used in the PVM subgroup (39% vs 32%; $P < .001$) and was more likely to be reported as normal. No significant difference was found in terms of short-term outcomes (length of stay; neurologic, renal, or cardiac complications; 30-day patency; readmission; and death) or for surgical site infection variables (30-day readmission for wound infection, need to return to operating room for infection).

Conclusions: Most patients do not have PVM before their IIB. Patients who undergo PVM are more than twice as likely to have a venous conduit used for their bypass. In patients who underwent autogenous venous conduit bypass, postoperative imaging to establish technical adequacy was performed more frequently in patients who underwent PVM and was more likely to be reported as normal. Despite no change in 30-day or 1-year patency, PVM may be a marker for physicians who are interested in best practices for IIB.

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Erector Spinae Block Reduces Opioid Use After Transaxillary First Rib Resection

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Objective: Recent federal initiatives mandate reductions in opioid analgesic prescribing to control postoperative pain. The severe pain associated with first rib resection for thoracic outlet syndrome is an ideal area of focus. The erector spinae block (ESB) is a new regional anesthesia technique used to provide analgesia for relief of acute postoperative pain. The objective of this study is to evaluate the potential benefit of ESB to reduce opioid requirements after transaxillary first rib resection.

Methods: Consecutive patients receiving ESB after transaxillary first rib resection were compared with a consecutive group of controls who underwent operations without block (nESB). Blocks were placed in the operating room by regional pain anesthesiologists after rib resection. Total inpatient, postoperative opioid use was calculated as morphine milligram equivalents (MMEs) according to Centers for Disease Control recommendations.

Results: A total of 50 patients (24 ESB, 26 nESB) were identified between June 2020 and April 2022. Demographics, indications for transaxillary first rib resection (arterial, venous, neurogenic, combined arterial and venous), and side of operation (right vs left) were similar in both groups. However, significantly more ESB subjects presented with axillary vein thrombosis compared with those who had nESB (10 vs 3; $P = .02$). The MMEs were significantly lower in the ESB group compared with the nESB group (21 ± 33 vs 64 ± 74 mg; $P = .01$) (Fig). More ESB patientss were discharged on the same day of surgery compared with nESB patients (5 vs 0; $P = .02$). Although fewer ESB patients returned for emergency department visits after discharge, the difference did not reach significance (1 vs 5; $P = .19$). There were no complications related to the ESB in any subject.

Conclusions: ESBs appear to be an effective adjunct for postoperative pain control in patients undergoing transaxillary first rib resection for thoracic outlet syndrome. These data demonstrate reduced inpatient opiate needs and shortened length of stay associated with routine use of ESB.

Author disclosures: A. Marrone: Nothing to Disclose; **R. J. Valentine:** Nothing to Disclose; **J. Flaherty:** Nothing to Disclose; **A. B. Reed:** Nothing to Disclose.

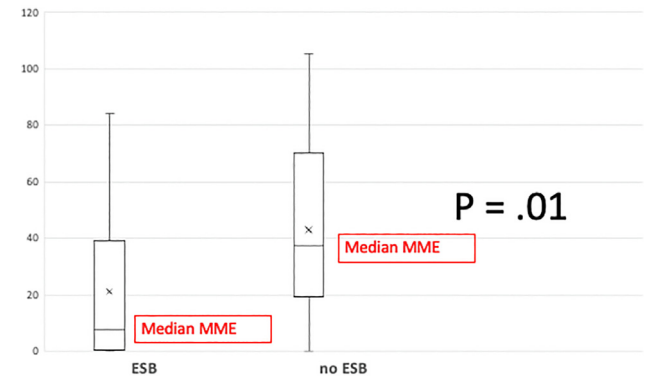

Fig. Morphine milligram equivalents (*MMEs*).

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Regional Variation In Patient Selection, Practice Patterns And Outcomes Based On Techniques For Carotid Artery Revascularization In The Vascular Quality Initiative

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Objective: The objective of this study was to evaluate regional variation in carotid revascularization within the Vascular Quality Initiative, 2016 to 2021.

Methods: Nineteen geographic regions were divided into three quantiles based on the average annual volume of carotid procedures performed per region (low, 956; medium, 1533; high, 1845 cases). Regression models that adjust for known risk factors and allow for random effects at the center level were utilized.

Results: A total of 126,768 carotid revascularization procedures were included in study. Most patients (~70.3%) were asymptomatic. Carotid endarterectomy (CEA) was the most common procedure (>60%) across all regional groups. Elective CEA, shunting, drain placement, and stump pressure monitoring were more common practices in low vs higher-

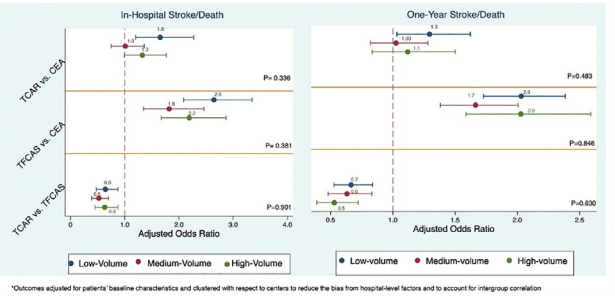

Fig. Adjusted in-hospital and 1-year stroke/death outcomes between transcarotid artery revascularization (*TCAR*) vs carotid endarterectomy (*CEA*) and transfemoral carotid artery stenting (*TF-CAS*) and between TFCAS and CEA across low-, medium-, and high-volume regional groups in the Vascular Quality Initiative (*VQI*).