Data Linkage to Facilitate Comparative Effectiveness Research: PAD in NYC

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Background: Critical Limb Ischemia

“End stage” peripheral vascular disease

8-12 million Americans with PAD

At least 3 million with CLI → 6 million by 2030

Annual healthcare costs over $10 billion

“Optimal” treatment strategy remains unclear with increasing attention on effectiveness of endovascular therapy and role of devices (implantable stents, etc.)
Stony Brook University Medical Center
Montefiore Medical Center
New York Presbyterian/
Weill Cornell Medical Center
NYU Medical Center
Maimonides Medical Center
Winthrop University Hospital
North Shore University Hospital / LIJ Medical Center
Lenox Hill Hospital
Mt. Sinai Medical Center & St. Luke’s Roosevelt
Beth Israel Medical Center
Staten Island University Hospital-North Site
Catholic Health-Kenmore Mercy Hospital
Catholic Health-Mercy Hospital of Buffalo
Catholic Health-Sisters of Charity Hospital
Kalieda-Buffalo General Hospital
Strong Memorial University
SUNY-Upstate Medical University
Pilot Study

We have previously used regional data from the VSGGNY to comparative effectiveness of endovascular therapy to surgical bypass in the treatment of critical limb ischemia.

414 patients treated from 2011-2013 at VSGGNY charter centers

Outcome metrics for SAFETY and EFFECTIVENESS derived from SVS Objective Performance Goals

Propensity score matched cohorts

(In press, JVS)
Pilot Study

No significant differences in safety (30 days) in unmatched or matched comparisons
Pilot Study

In unadjusted comparison, at 1 year, surgical bypass was less likely to require reintervention (RAS/RAO) than endovascular therapy.

However, after PS matching, endovascular therapy was associated with improved Freedom from major adverse limb events & death.
Pilot Study

Feasibility of using regional (VQI) data to address fundamental questions in vascular disease... and assess the safety and effectiveness of emerging technology without the costs and equipoise constraints of RCT.

Data linkage to EHR could address fundamental limitations (e.g., follow-up) and further facilitate PCOR
Together we can find answers that will save lives.

PCOR-Net Partner Network (~6m patients)
Link regional VQI registry data to claims and electronic health data from the NY CDRN.

We will create enhanced regional cohorts of patients through linkage of NY regional VQI data with NY-CDRN that has EHRs from medical centers in New York.
**Objective** – compare the long term safety and effectiveness of endovascular device-based therapy to surgical bypass in the treatment of PAD.

**Benefits of linkage to NYC CDRN:**
1. Expand and improve follow-up data collection, particularly for patients receiving care at non-index facility
2. Comprehensive device data (VQI and OR/Cath lab reports)
3. Circumvent “laterality” issues by accessing EHR data
4. Focus on patient centered outcomes – including functional status, ambulation, wound healing, etc, – by development of NLP algorithms
5. Potential to assess outcomes of conservative/medical treatment strategy
Conclusions

VQI / VSGGNY pooled data has proven potential for CER

Linkage to regional CDRN data will dramatically expand the potential for CER and PCOR

Regional (VSGGNY – NYC-CDRN) linkage will serve as a template for larger (national) projects