Distal Bypasses have An Important Role in the Treatment of CLTI in the Endovascular Era: What Is That Role?

15 November 2018
Veith Symposium, New York.

Ramesh K Tripathi MD, FRCS, FRACS Vasc.
A/Professor
University of Queensland, Australia
Adjunct Professor
University of Sunshine Coast, Australia

Indications for Distal Bypass

Where are we in 2018?

Manifestation of disease
Rest pain vs. tissue loss

Rest pain
Revascularizing a single level of disease may be sufficient to eliminate debilitating ischemic pain symptoms.

Tissue Loss
Goal is to re-establish inline, pulsatile flow to the distal extremity to ensure healing.

This often requires staged procedures to treat multilevel inflow and outflow disease.


Lower extremity bypass for critical limb ischemia decreases major adverse limb events with equivalent cardiac risk compared with endovascular intervention

J Vasc Surg 2017; 66, 4:1109–1116.e1

Methods
The National Surgical Quality Improvement Program (NSQIP) vascular (2011-2014) for LEB and IEI were merged. CLI patients were identified by ischemic rest pain or tissue loss. Patients were matched on a 1:1 basis for propensity to undergo infrageniculate Leg Bypass or Endovascular Intervention. Primary outcomes were 30-day Major Adverse Limb Events (MALE) and Major Adverse Cardiovascular Events (MACE). Within the propensity-matched cohort, multivariate logistic regression was used to identify independent predictors of MALEs and MACEs.

Results
Large, propensity-matched, national cohort. Bypass predicted lower risk-adjusted 30-day MALE rate compared with Endovascular Intervention. Furthermore, there was no difference in 30-day MACE rate between the groups despite higher inherent risk with open surgical procedures.

Study supports the effectiveness and primacy of Leg Bypass for revascularization in CLI.

Mortality

30 days and 1 year

No Disclosures
Life expectancy:
The importance of durability of revascularization for CLI must be emphasized; although overall short-term mortality has historically been high among patients with CLI as discussed above, RCTs reported in the last decade have demonstrated 1 and 2-year survival rates in excess of 85% and 70%, respectively, in patients who receive treatment.

For patients who survived beyond the initial 2-year period (70%), the surgical bypass-first approach was associated with higher overall survival, and a trend towards improved Amputation Free Survival.


Considerations

Life Expectancy with CLI is very poor - 40% within 2 yrs

Open bypass in this frail group leads to decline in QOL due to post-op recovery issues.

Return to independent ambulation at 1 year with Endovascular is 93% with open surgery is 79%.

Past analysis of survival and potency is over simplistic and don’t tell the true story.
Role of Distal Bypass is complementary to Endovascular Interventions.

Current indications are:

1. Patients with tissue loss
2. Physiologically good risk
3. With long occlusive TASC D lesions >20-30 cm
4. >2 years life expectancy
5. Endovascular failure to recanalise (stent occlusions, new uncrossable occlusive disease, Acute un salvageable Thrombosis, occluded popliteal trifurcation, CFA severe disease
6. No Endovascular direct revascularisation with poor flow in angiosomal artery

Awaiting further RCTs e.g BASIL-II, BEST-CLI