Distal (Pedal) Bypasses vs. PTAs for the treatment of Tibial and Pedal Occlusive Lesions: Pros and Cons of Each.

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VEITH Symposium 2015

Disclosure

• Nothing to Declare.

Pomposelli FB et al., J Vasc Surg 2003

- 1032 bypasses to DPA between 1990-2000
- DM: 90% - Mean age: 66.8 Yrs.
- Only 2 Prosthetic grafts
- Inflow vessel: Popliteal a. in > 50%
- 30-Days Mortality rate: 0.9%
- 2 prosthetic grafts failed within first year.

<table>
<thead>
<tr>
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<th>5 Years</th>
<th>10 Years</th>
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<tbody>
<tr>
<td>Primary Patency</td>
<td>56.8%</td>
<td>37.7%</td>
</tr>
<tr>
<td>Secondary Patency</td>
<td>62.7%</td>
<td>41.7%</td>
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<tr>
<td>Limb Salvage</td>
<td>78.2%</td>
<td>57.7%</td>
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<tr>
<td>Survival</td>
<td>48.6%</td>
<td>21.8%</td>
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Conclusion: These results justify routine use of pedal bypasses in diabetic patients with foot ischemia.

Outcome
Distal versus Ultrasound Bypass Grafts: Amputation-free Survival and Patency Rates in Patients with Critical Leg Ischaemia


Royal London Hospital, London. UK

Submitted 11 September 2015, accepted 20 March 2016

In 230 distal and Pedal Bypasses:
- 30-days Mortality: 1.7%
- 1-Year Mortality: 12.2%

AFS:
- 12 mo.: 80%
- 48 mo.: 60%

- Re-Intervention Rate: Overall 30%
  Direct: 25%
  Indirect: 34%

- Mortality rate: 36% (mean 18 mo. +/- 16 mo.)

Technical success: 94%
30-days Mortality: 2%
2-Year freedom from re-intervention: 66%

Midterm Outcomes and Risk Stratification after Endovascular Therapy for Patients with Critical Limb Ischemia due to Isolated Below-the-knee Lesions


Objective: To assess risk stratification and clinical outcomes after endovascular therapy (EVT) for angiographically isolated below-the-knee (BTK) lesions due to critical limb ischemia (CLI). Design: Prospective multivariate study.

Methods: Between March 2004 and October 2010, 468 limbs (139 SFA and 329 BTK) from 406 patients were studied. Overall survival, limb salvage, and re-intervention were examined out to 3 years by the Kaplan-Meier method and the log-rank test. These independent predictors and risk stratification were analyzed.

Results: Mean age was 71 ± 12 years, with 64% diabetes and 60% on dialysis. Mean follow-up saw 38 ± 12 months. Overall survival saw 76 ± 2 and 37 ± 4 at 1 and 3 years, respectively, survival predictors were blood transfusion load, C-reactive protein, homocysteine, and post-procedural SFA occlusion. Technical success was 94% with recurrent occlusion at 9 ± 5 months associated with major amputation (hazard ratio 10.65, 95% CI 1.85-66.9, p = 0.006). A 3-year freedom from re-intervention rate was 66 ± 8. Factors associated with major amputation were amputation (hazard ratio 10.65, 95% CI 1.85-66.9, p = 0.006), C-reactive protein >5 mg/L, and age >45 years. Two-year freedom from re-intervention was at 31 ± 24 months and below-the-knee revascularization itself was negatively associated with re-intervention.

Conclusions: Despite relatively high mortality and re-intervention rates, limb salvage rate was acceptable after EVT for CLIs with isolated BTK lesions. Risk stratification allows an estimation for risk and outcome.

Long-term results of direct and indirect endovascular revascularization based on the angiosome concept in patients with critical limb ischemia presenting with isolated below-the-knee lesions

Osama Sada, MD, Toshiyuki Yamaura, MD, Tsuyoshi Kimura, MD, Takayuki Yoshioka, MD, Hidetoshi Hara, MD, Takeshi Moriyama, MD, Toyohiko Hara, MD, Takayuki Tanaka, MD, Hiroshi Hirose, MD, Ayako Ueda, MD

Objective: To assess the clinical outcome and risk stratification of EVT for isolated below-the-knee (BTK) lesions due to critical limb ischemia (CLI) using the angiosome concept.

Methods: Between March 2004 and October 2010, 468 limbs (139 SFA and 329 BTK) from 406 patients were studied. Overall survival, limb salvage, and re-intervention were examined out to 3 years by the Kaplan-Meier method and the log-rank test. These independent predictors and risk stratification were analyzed.

Results: Mean age was 71 ± 12 years, with 64% diabetes and 60% on dialysis. Mean follow-up saw 38 ± 12 months. Overall survival saw 76 ± 2 and 37 ± 4 at 1 and 3 years, respectively, survival predictors were blood transfusion load, C-reactive protein, homocysteine, and post-procedural SFA occlusion. Technical success was 94% with recurrent occlusion at 9 ± 5 months associated with major amputation (hazard ratio 10.65, 95% CI 1.85-66.9, p = 0.006). A 3-year freedom from re-intervention rate was 66 ± 8. Factors associated with major amputation were amputation (hazard ratio 10.65, 95% CI 1.85-66.9, p = 0.006), C-reactive protein >5 mg/L, and age >45 years. Two-year freedom from re-intervention was at 31 ± 24 months and below-the-knee revascularization itself was negatively associated with re-intervention.

Conclusions: Despite relatively high mortality and re-intervention rates, limb salvage rate was acceptable after EVT for CLIs with isolated BTK lesions. Risk stratification allows an estimation for risk and outcome.
Limitations

- No level 1 evidence
- Selection bias
- Retrospective nature
- Variety of outcome measures

Patient- Tailored Decision Making

- Fitness
- Technical:
  - Conduit
  - Target vessel
  - Inflow
  - Tissue loss: Site and extent
  - Best Run-off Vessel
  - Stenosis/ Occlusion
  - Quality of foot arch
- Cost Effectiveness.

Angioplasty

- Stenosis/ Short occlusions
- High-risk
- No vein
- Unfavorable location of tissue loss
- No foot arch/ flow lumen

Tibial/ Pedal Bypass

- Fit
- Suitable Conduit
- Good target vessel
- Failed Endo

Until .....
Thank You