Common Femoral Endovascular Therapy: what we can learn from coronary intervention

George S. Chrysant, M.D. FACC, FSCAI, FSCCT
INTEGRIS Heart Hospital
Oklahoma City, Oklahoma USA
Disclosure Statement of Financial Interest

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

<table>
<thead>
<tr>
<th>Affiliation/Financial Relationship</th>
<th>Company</th>
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<tr>
<td>Consulting Fees/MAB</td>
<td>Abbott Vascular</td>
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<td>Consulting Fees/MAB</td>
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<td>Consulting Fees/MAB/Proctor</td>
<td>Medtronic</td>
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Approach to Coronary Bifurcation

“a coronary artery narrowing occurring adjacent to and/or involving a significant side branch (SB).”

A significant SB is a branch whose loss is of importance:
Symptoms
Myocardium supplied
Collateralizing vessel...

From Sawaya et al. JACC INTV. 2016
Approach to Femoral Bifurcation

“a common femoral artery narrowing occurring adjacent to and/or involving a significant side branch (SB).”

A significant SB is a branch whose loss is of importance:
Symptoms
Lower extremity supplied
Collateralizing vessel...
Lesion Type:

I. EIA
II. CFA only
III. CFA and bifurcation
IV. Bypass Anastomosis
Hazard Ratio: 2 stent coronary strategy

MACE: 3.8
MI: 3.19
TLR: 4.39

From Cho et al. JACC INTV. 2018
Data
Endovascular Treatment of Common Femoral Artery Disease

Medium-Term Outcomes of 360 Consecutive Procedures

Robert F. Bonvini, MD,*† Aljoscha Rastan, MD,* Sebastian Sixt, MD,* Elias Noory, MD,* Thomas Schwarz, MD,* Ulrich Frank, MD,‡ Marco Roffi, MD,† Pierre André Dorsaz, PhD,† Uwe Schwarzwälder, MD,* Karlheinz Bürgelin, MD,* Roland Macharzina, MD,* Thomas Zeller, MD*

Bad Krozingen, Germany; and Geneva and Chur, Switzerland
11 Year Period

- Retrospective analysis-360 patients
- 355 PTA
  - 144 Stent
  - 25 Atherectomy
- 93% had < 30% residual stenosis
- 48% 1-1-1 vs 19% 1-0-0
Restenosis at 12 months 27.6%  

TLR at 12 months 19.9%
Percutaneous common femoral artery interventions using angioplasty, atherectomy, and stenting

Manish Mehta, MD, MPH, a,b Yi Zhou, MD, a Philip S. K. Paty, MD, a,b Medhi Teymouri, BS, a Kamran Jafree, MD, a Humayun Bakhtawar, MD, a Jeffrey Hnath, MD, c and Paul Feustel, PhD, d

Albany, NY
At 20 month follow-up

- Provisional stent group had 100% patency
- PTA alone 72%
- Atherectomy + PTA 92%

- At 42 months, nonstent patency 77%
Stenting or Surgery for De Novo Common Femoral Artery Stenosis

Yann Gouëffic, MD, PhD, Nellie Della Schiava, MD, Fabien Thaveau, MD, PhD, Eugenio Rosset, MD, PhD, Jean-Pierre Favre, MD, PhD, Lucie Salomon du Mont, MD, Jean-Marc Alsac, MD, PhD, Réda Hassen-Khodja, MD, Thierry Reix, MD, Eric Allaire, MD, PhD, Eric Ducasse, MD, PhD, Raphael Soler, MD, Béatrice Guyomarc’h, Bahaa Nasr, MD

JACC: CARDIOVASCULAR INTERVENTIONS VOL. 10, NO. 13, 2017
JULY 10, 2017:1344-54
<table>
<thead>
<tr>
<th>Characteristics of the Patients</th>
<th>Surgery</th>
<th>Stenting</th>
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<tbody>
<tr>
<td>Age, yrs</td>
<td>68 ± 8</td>
<td>68 ± 9</td>
</tr>
<tr>
<td>Male</td>
<td>51 (84)</td>
<td>48 (86)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>44 (72)</td>
<td>45 (80)</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>40 (66)</td>
<td>37 (66)</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>25 (41)</td>
<td>17 (31)</td>
</tr>
<tr>
<td>Smoking at baseline</td>
<td>28 (46)</td>
<td>26 (46)</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>28 (46)</td>
<td>27 (48)</td>
</tr>
<tr>
<td>Renal insufficiency</td>
<td>8 (13)</td>
<td>6 (11)</td>
</tr>
<tr>
<td>On dialysis</td>
<td>1 (13)</td>
<td>1 (17)</td>
</tr>
<tr>
<td>Obesity (BMI &gt; 25 kg/m²)</td>
<td>39 (64)</td>
<td>31 (58)</td>
</tr>
</tbody>
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<tr>
<th>Type of lesion</th>
<th>Surgery</th>
<th>Stenting</th>
</tr>
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<tbody>
<tr>
<td>I</td>
<td>6 (10)</td>
<td>9 (16)</td>
</tr>
<tr>
<td>II</td>
<td>21 (34)</td>
<td>13 (23)</td>
</tr>
<tr>
<td>III</td>
<td>34 (56)</td>
<td>34 (61)</td>
</tr>
</tbody>
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<tr>
<th>Degree of stenosis</th>
<th>Surgery</th>
<th>Stenting</th>
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<tr>
<td>70% to 90%</td>
<td>43 (70)</td>
<td>35 (63)</td>
</tr>
<tr>
<td>≥90%</td>
<td>14 (23)</td>
<td>20 (36)</td>
</tr>
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</table>

TASC II for femoropopliteal disease

| A | 11 (18) | 10 (18) |
| B | 13 (21) | 12 (21) |
| C | 6 (10)  | 10 (18) |
| D | 11 (18) | 9 (16)  |

Runoff vessels, n

| 0 | 2 (3)  | 2 (4)  |
| 1 | 5 (9)  | 6 (11) |
| 2 | 15 (25)| 14 (25)|
| 3 | 37 (63)| 33 (60)|
At 30 days, primary endpoint favored stenting (26% vs 12.%, \( p=0.05 \))

At 2 years, no significant difference in TLR or patency

LOS significant (3.2 vs 6.3 days)
Outcome After Endovascular Treatment of Deep Femoral Artery Stenosis: Results in a Consecutive Patient Series and Systematic Review of the Literature

Petra Dick, MD; Wolfgang Mlekusch, MD; Schila Sabeti, MD; Jasmin Amighi, MD; Oliver Schlager, MD; Markus Haumer, MD; Erich Minar, MD; and Martin Schillinger, MD

Department of Angiology, Vienna General Hospital, Medical University, Vienna, Austria.
Modest ABI improvements

From Dick et al. JEVT. 2006
Suboptimal outcomes of PFA PTA

From Dick et al. JEVT. 2006

*Re-Interventions including all endovascular and surgical procedures at the ipsilateral limb.
Technique
BIFURCATION LESION

Preferred Approach

Provisional SB Stenting with POT

- SB > 75% residual stenosis, dissection, decreased flow, ischemia
- SB ≤ 75% residual stenosis, no dissection, normal flow, no ischemia

or

- T Stenting if entered a distal strut
- Tap or Culotte if entered a proximal strut

+ FFR

Leave alone if territory not big or FFR negative

POT-Side-POT or KBI

Final Kissing Balloons

* Complex 1,1,1 lesion with difficult SB access and/or high risk of occlusion

- Culotte Stenting (SB stent first with mandatory POT)
- Systematic T Stenting
- DK Crush Stenting with minimal MB protrusion; POT after MV stenting and after final KBI

* Imaging encouraged in all bifurcation stenting, especially with LM stenting

Proximal Optimization Technique

Courtesy of Terumo Corporation
Conclusions

• One stent technique preferred and backed by data
• Profunda is an important side branch but may be a suboptimal site for stenting
• Caution should be applied when approaching Medina 1-1-1/ Type III lesions
• When main branch stenting (BES) is required, use POT to ensure optimal result
Thank You
Chronic mesenteric ischemia: clinical outcome after endovascular therapy

Manuela Matschuck MD
University hospital Leipzig