Hybrid procedures in complex vessel anatomies

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

☐ Consulting

☐ Employment in industry

☐ Stockholder of a healthcare company

☐ Owner of a healthcare company

☐ Other(s)

❌ I do not have any potential conflict of interest
What`s the therapy of choice?
Therapy options

Open surgery  Endovascular  Hybrid repair
Hybrid Techniques

- CFA endarterectomy
- + inflow angioplasty
- + outflow angioplasty

Femoral-femoral Bypass
Femoro-popliteal Bypass
Distal origin Bypass
Why Hybrid procedures?

- Old patients with multiple comorbidities
- 25% of patients with CLI have multilevel arterial occlusive disease
- Overcome more complex vessel anatomies with less invasive procedure than open repair with decreased tissue trauma
- High initial technical success (up to 99%)
- Morbidity and Mortality seem to better than in OR despite selection bias
- Shortened hospital stay

Open surgery in CLI with multilevel POD

1995:
Morbidity rate  61 %
Mortality rate  19 %

Harward TR et al., Ann Surg 1995

2015:
Morbidity rate  11,9%
Mortality rate  5 %


Open surgery with simultaneous inflow and outflow bypasses is still associated with high morbidity and mortality
Open surgery versus Hybrid repair in iliac and common femoral artery disease

• Hybrid repair is similar to aorto-iliac bypass considering short term and long term patency and limb salvage rates (10 years, 164 limbs)

• Hybrid repair should be considered for all patients with extensive iliac femoral occlusive disease regardless the severity of TASC classification, particularly in those with high surgical risk

CFA endarterectomy + Aorto-iliac angioplasty

- 79 y/o male Pt.
- CLI on the left side (non-healing calf ulcer), PAOD Rutherford 5 on the right side
- Multiple cardio-vascular risk factors

- Flush aortic occlusion
- Occlusion of both CIA, EIA CFA and SFA
CFA endarterectomy + Aorto-iliac angioplasty

Antegrade brachial access

Retrograde approach via CFA and crossing the occlusion with double Balloon Technique
CFA endarterectomy + Aorto-iliac angioplasty

Predilatation of the aorta and iliac arteries under renal protection

Stenting of the aorta and iliac arteries with 4 covered stents (Advanta™ V12 9/59mm)
CFA endarterectomy + Aorto-iliac angioplasty
CFA endarterectomy and distal limb recanalization

- Patients with RC 5 and TASC D lesions and those with major tissue loss RC 6 regardless of TASC lesion are better served with additional distal revascularization to improve limb salvage, reintervention and survival rates.
- CFE alone is sufficient for patients with lower-extremity ischemia who present with life-limiting claudication regardless of TASC lesion and for those with RC 5 and TASC lesions A to C.

CFA endarterectomy + iliac angioplasty + SFA Angioplasty

- 72 y/o male Pt.
- PAOD Rutherford 5 on the right side
- Occlusion of the ilio-popliteal Bypass on the right side

Chronic Occlusion of right EIA, CFA, SFA
CFA endarterectomy + iliac angioplasty + SFA Angioplasty

Cross-over access to the right EIA after CFA-TEA and pre-dilation

Final Result
What evidence for Hybrid revascularization do we have?

Surgical and endovascular hybrid approach in peripheral arterial disease of the lower limbs

Anouk Grandjean, Katia Iglesias, Céline Dubuis, Sébastien Déglise, Jean-Marc Corpataux, and François Saucy

Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

Early and late outcomes of hybrid endovascular and open repair procedures in patients with peripheral arterial disease

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What evidence for Hybrid revascularization do we have?

- Heterogenous patients
- Different treatment strategies
- Different disease severity
- Varying lesion morphology and complexity
What evidence for Hybrid revascularization do we have?

- Absence of RCT
- Limited systematic data for Hybrid revascularization
- Data shows good limb salvage rates and low morbidity and mortality
- Absence of general criteria for useful indications of Hybrid repair
Own selection criterias for hybrid repair

Multilevel atherosclerotic disease

Cardiopulmonary high risk patients

Rutherford Stage 4-6

Independent from TASC lesions
Summary

Hybrid revascularization is a very useful tool in high risk patients with multilevel POD and extensive tissue loss.

Need of randomized controlled trials to define the status of hybrid revascularization.
Thank you!
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