Y a-t-il encore des indications de revascularisation dans la claudication intermittente ?

Lucia Mazzolai
Service d’Angiologie
CHUV, Lausanne, Switzerland
Cet intervenant :

✓ n’a pas de liens d’intérêt pour cette présentation

Tous les orateurs ont reçu une déclaration de liens d’intérêt.
Aims of management of PAD pts with IC

- Prevent CV events
- Improve quality of life
- Increase walking distance
- Prevent MALE (major adverse limb events)
Management strategy for intermittent claudication (IC)
Current guidelines recommend **optimal medical therapy** as the initial treatment modality for patients with IC.
Exercise for IC

CV RISK REDUCTION

- Significant improvement of SBP and DBP in the short term (6 wks-3mo)
- Significant improvement of LDL and tot Chol in the mid term (6-12mo)

Jansen S et al, JVS, 2018

WALKING PERFORMANCE IMPROVEMENT

+50-200% walking distance
Supervised vs non-supervised exercise

Maximal treadmill walking distance after 3 months

Similar results at 6 months

Amelioration is significant also in patients with atypical IC symptoms

Adapted from: Hagemann et al. Cochrane library 2018
Role of revascularisation therapy as primary treatment for claudication is controversial.
Studies have demonstrated efficacy of endovascular therapy and open surgery on symptom relief, walking distance, and QOL in claudicants.

- Efficacy based on anatomical localisation:
  - Isolated iliac or femoro-popliteal occlusive lesions do better than combined lesions regardless of treatment strategy (symptom relief, walking distance)

- Blood flow parameters (ABI) improve faster and better with revascularization (improvement does not necessarily correlate to important improved patient outcome)

- No direct comparison between endovascular and surgery treatments in IC
Endovascular revascularisation vs conservative therapy

Maximum walking distance

- Significant differences between groups for walking parameters at early but not at long term FU
- No differences between groups in the number of secondary invasive interventions, mortality, and QOL

Secondary invasive interventions

Mortality
Endovascular revascularisation vs conservative therapy in form of supervised Exercise

**Maximum walking distance**

- No clear differences between groups for walking parameters at early and long term FU
- No differences between groups in the number of secondary invasive interventions, mortality and QOL

**Secondary invasive interventions**

**Mortality**

- Fakhri F et al, Cochrane, 2018
Exercise vs endovascular therapy

79 patients with PAD randomized:

- Optimal medical treatment (OMT)
- OMT plus Supervised Exercise (SE; 6 mo program)
- OMT plus Stent revascularisation

18-mo FU: comparable, clinically important, and durable benefit in functional status, for both revascularization and exercise compared with OMT
Revascularization vs medical therapy: Patients reported outcomes

- Longitudinal (12-month FU) prospective observational cohort study
- 323 patients
- **Aim:** compare effectiveness of medical* vs revascularization for IC, focusing on outcomes of greatest importance to patients

*No exercise or non-supervised exercise training*
Cost-effectiveness of revascularization in patients with IC

Aortoiliac or femoropopliteal PAD (1 RCT)

<table>
<thead>
<tr>
<th>158 pts</th>
<th>Mean cost per pt (Euros)</th>
<th>QALYs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revasc + OMT</td>
<td>8280</td>
<td>1.41</td>
</tr>
<tr>
<td>OMT alone</td>
<td>1901</td>
<td>1.25</td>
</tr>
<tr>
<td>Difference</td>
<td>6379</td>
<td>0.16</td>
</tr>
</tbody>
</table>

A revascularization strategy was about **four times more expensive** than a non revascularization strategy, but led to a mean gain in QALY per patient of 0.16. This resulted in a cost per QALY gained of €42 881.

QALY est une mesure de l’utilité perçue par les patients d’une action médicale qui correspond à une année de vie gagnée. Elle vise à évaluer simultanément l’espérance de vie avec la notion de qualité de vie.

The national guidelines of the Swedish National Board of Health have a set limit of €50 000 for considering new emerging pharmacotherapies to be expensive (€ 22 000–€34 000 in UK).
Combination of endovascular revascularization and supervised exercise for IC
Exercise and endovascular therapy

Patients with aorto-iliac, and femoro-popliteal PAD

- QOL significantly improved in both groups but was greater in the combination group
- Combination therapy is the most effective therapy for many patients with IC
- Exercise alone shows marked improvement in walking performances and QOL

Main outcome at 12 months

<table>
<thead>
<tr>
<th></th>
<th>Supervised exercise</th>
<th>Supervised exercise + revascularisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (m)</td>
<td>285</td>
<td>264</td>
</tr>
<tr>
<td>MWD (m)</td>
<td>955</td>
<td>1237</td>
</tr>
<tr>
<td>Pain-free WD (m)</td>
<td>712</td>
<td>1120</td>
</tr>
</tbody>
</table>

MWD: mean walking distance

Fakhry et al, JAMA 2015
- Meta-analysis: 987 pts with stable IC on medical therapy

- Combination of **endovascular revasc + exercise** as initial ttt significantly improved walking capacities and lower risk of revasc or amputation on intermediate FU compared to exercise only
Both exercise training and revascularization can greatly improve patient exercise performance and QOL.

Different mechanisms

“Best” treatment strategy would appear to be the combined program.

Exercise

- Adaptive responses:
  - improved skeletal muscle mitochondrial
  - oxidative metabolism, improved endothelial function, and more efficient biomechanics of walking

Revascularisation

- Improves exercise blood flow

Exercise and endovascular therapy
Proposed strategy for managing patients with IC

Claudication

Assessment of risk factors and medication
Control of the risk factors (smoking, hypertension, dyslipidaemia, diabetes)
Antiplatelet and lipid lowering therapy
Initiation of exercise therapy, preferably supervised

Claudication impairs significantly daily life after exercise therapy

Patient's general condition allows invasive treatment

Patient's general condition does not allow invasive treatment

Claudication does not impact daily life at the baseline or after exercise therapy

Exercise, preventive and medical therapies

Aboyans V. et al, EHJ, 2017
## Management of patients with IC

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Class</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>In patients with intermittent claudication:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• supervised exercise training is recommended,</td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td>• unsupervised exercise training is recommended when supervised exercise training is not feasible or available.</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>When daily life activities are compromised despite exercise therapy, revascularization should be considered.</td>
<td>IIa</td>
<td>C</td>
</tr>
<tr>
<td>When daily life activity is severely compromised, revascularization should be considered, in association with exercise therapy.</td>
<td>IIa</td>
<td>B</td>
</tr>
</tbody>
</table>

Aboyans V et al EHJ, 2017
Conclusion

- Revascularization only is not associated with significant improvement in any clinical or functional outcomes despite improvement in ABI.
- Consider initial revascularization as an adjunctive therapy to exercise but not as a primary treatment option in the initial management approaches for IC.
- Multidisciplinary approach → vascular team.
Les cibles thérapeutiques ne sont pas atteints

Certains groupes de patients et particulièrement ceux avec artériopathie périphérique sont à plus haut risque CV

Benegas et al, EHJ 2011
Merci !