Optimal Medical Therapy: What are the guidelines?

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Disclosures

None
Step 1: know you have a problem

Population: ≥50yo with risk factors, ≥70yo:

ROS: Walking impairment, claudication, ulcers?

Family Hx: AAA?

Exam: pulses, skin changes, ulceration

ABIs: ≤0.90 (≥1.4)

Statins reduce events.

<table>
<thead>
<tr>
<th>Type of major vascular event</th>
<th>Simvastatin-allocated (10 269)</th>
<th>Placebo-allocated (10 267)</th>
<th>Event rate ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coronary events</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-fatal MI</td>
<td>357 (3.5%)</td>
<td>574 (5.6%)</td>
<td>0.73 (0.67–0.79) p&lt;0.0001</td>
</tr>
<tr>
<td>Coronary death</td>
<td>587 (5.7%)</td>
<td>707 (6.9%)</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal: major coronary event</strong></td>
<td>898 (8.7%)</td>
<td>1212 (11.8%)</td>
<td></td>
</tr>
<tr>
<td><strong>Strokes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-fatal stroke</td>
<td>366 (3.6%)</td>
<td>499 (4.9%)</td>
<td>0.75 (0.66–0.85) p&lt;0.0001</td>
</tr>
<tr>
<td>Fatal stroke</td>
<td>96 (0.9%)</td>
<td>119 (1.2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal: any stroke</strong></td>
<td>444 (4.3%)</td>
<td>585 (5.7%)</td>
<td></td>
</tr>
<tr>
<td><strong>Revascularisations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coronary</td>
<td>513 (5.0%)</td>
<td>725 (7.1%)</td>
<td>0.76 (0.70–0.83) p&lt;0.0001</td>
</tr>
<tr>
<td>Non-coronary</td>
<td>450 (4.4%)</td>
<td>532 (5.2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal: any revascularisation</strong></td>
<td>939 (9.1%)</td>
<td>1205 (11.7%)</td>
<td></td>
</tr>
<tr>
<td>ANY MAJOR VASCULAR EVENT</td>
<td>2033 (19.8%)</td>
<td>2585 (25.2%)</td>
<td>0.76 (0.72–0.81) p&lt;0.0001</td>
</tr>
</tbody>
</table>
## Statins preserve function

<table>
<thead>
<tr>
<th></th>
<th>Statin User</th>
<th>Statin Non-user</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 min walk (ft)</td>
<td>-34.5</td>
<td>-57.9</td>
<td>0.088</td>
</tr>
<tr>
<td>Normal pace 4m velocity (m/s)</td>
<td>0.002</td>
<td>-0.024</td>
<td>0.013</td>
</tr>
<tr>
<td>Rapid pace 4m velocity (m/s)</td>
<td>-0.006</td>
<td>-0.042</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Giri J, et al. JACC 2006
Use Statins

Treat LDL to ≤100

Probably best to treat ≤70

New lipid guidelines – treat to max dose of a potent statin

Consider Fibric Acids

Probably helpful when:

- HDL low
- LDL nl
- TG high

www.nature.com
52yo, PAD
On statin
BP 170/90
Better BP = better outcomes

No DM - <140/90mmHg
DM - <130/80mmHg

Betablockers safe
ACE-i a good choice

Why Bblockers/ACE?

<table>
<thead>
<tr>
<th>Model</th>
<th>Medication</th>
<th>HR and 95% CI for Overall Death, Univariate</th>
<th>p Value</th>
<th>HR and 95% CI for Overall Death, Multivariate*</th>
<th>p Value</th>
<th>HR and 95% CI for Overall Death, Multivariate†</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Statin</td>
<td>0.65 (0.54–0.78)</td>
<td>&lt;0.001</td>
<td>0.42 (0.34–0.53)</td>
<td>&lt;0.001</td>
<td>0.46 (0.36–0.58)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2</td>
<td>Beta-blocker</td>
<td>0.76 (0.65–0.88)</td>
<td>&lt;0.001</td>
<td>0.64 (0.55–0.75)</td>
<td>&lt;0.001</td>
<td>0.68 (0.58–0.80)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>3</td>
<td>Aspirin</td>
<td>0.87 (0.77–1.01)</td>
<td>0.08</td>
<td>0.78 (0.67–0.91)</td>
<td>0.002</td>
<td>0.72 (0.61–0.84)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>4</td>
<td>ACE inhibitors</td>
<td>1.13 (0.98–1.30)</td>
<td>0.08</td>
<td>0.80 (0.69–0.93)</td>
<td>0.004</td>
<td>0.80 (0.69–0.94)</td>
<td>0.005</td>
</tr>
<tr>
<td>5</td>
<td>Diuretics</td>
<td>1.22 (1.03–1.43)</td>
<td>0.02</td>
<td>0.82 (0.68–0.98)</td>
<td>0.03</td>
<td>0.85 (0.71–1.02)</td>
<td>0.09</td>
</tr>
<tr>
<td>6</td>
<td>Ca-antagonists</td>
<td>1.14 (1.01–1.30)</td>
<td>0.04</td>
<td>1.04 (0.91–1.19)</td>
<td>0.6</td>
<td>1.03 (0.90–1.18)</td>
<td>0.7</td>
</tr>
<tr>
<td>7</td>
<td>Nitrates</td>
<td>1.36 (1.19–1.56)</td>
<td>&lt;0.001</td>
<td>1.00 (0.86–1.16)</td>
<td>1.0</td>
<td>1.00 (1.86–1.16)</td>
<td>1.0</td>
</tr>
<tr>
<td>8</td>
<td>Coumarins</td>
<td>1.15 (1.01–1.32)</td>
<td>0.03</td>
<td>1.13 (0.98–1.29)</td>
<td>0.08</td>
<td>1.13 (0.98–1.29)</td>
<td>0.08</td>
</tr>
<tr>
<td>9</td>
<td>Digoxin</td>
<td>1.91 (1.57–2.33)</td>
<td>&lt;0.001</td>
<td>1.2 (1.01–1.57)</td>
<td>0.04</td>
<td>1.21 (1.95–1.53)</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Feringa HHH, et al. JACC 2006
Yusuf S, et al. NEJM 2000
ASA

ASA 75-150mg -> 32% reduction in CV events!

Antiplatelet better
Antiplatelet worse
Clopidogrel

CAPRIE – PAD subset 24% reduction in vascular endpoints with clopidogrel vs ASA

CAPRIE. Lancet 1996
Inhibit the platelets

ASA reduces CVD, stroke, vascular death
-probably helpful in anyone with ABI ≤0.9

Clopidogrel— safe/effective alternative

Other options?

ASA+Clopidogrel?
Consider if high CV risk/low bleed risk. No trial has shown combination better than single drug

Coumadin?

**Coumadin – Class III. No benefit/potential harm**

Diabetes

Treat A1C ≤7

Foot care:
- Daily inspection
- Appropriate shoes
- Podiatry involvement
- Use of moisturizers

Cilostazol works

Pletal → cAMP

Inhibit Plt aggregation

Arterial Dilation

Cilostazol works

- 40-60% farther
- Increase ABIs
- Increased QOL

100mg BID for 12-24wks

Pentoxifylline?

Not well established
Consider as a second line agent

Pentoxifylline

No good evidence for:
No Help

- Oral Prostacyclines
- Vitamin E
- Chelation

Exercise. Supervised.

Initial therapy for claudication
30-45min, 3x wk for 12wks
Usefulness of unsupervised exercise unclear

Smoking? We can help.

99.9% Healthcare provider intervention
95% Patient desire to quit
70% Medication, Nicotine replacement
0.1%
30%

Hirsch et al. JACC 2006
Key Points

SHOULD:
- Check feet daily/screen for PAD
- Antiplatelet meds, statins, BP/glucose control
- Encourage ambulation
- Smoking cessation

SHOULD NOT:
- Coumadin
- Vit E
- Chelation

WHO KNOWS?
- Pentoxifylline
- Ginko
- L-arginine
- L-carnitine