Screening For ACS Is Important: Not To Increase Invasive Treatments But To Lead To Better Medical Treatment: Which Patients Should Be Screened

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Conflicts of interest

- Philips Ultrasound (research grant)
- Novartis (research grant and honaria)

Does imaging of atherosclerosis improve risk prediction?

Muntendam et al: Am Heart J 2010;160:49-57

Carotid stenosis (%)

<table>
<thead>
<tr>
<th>Diagnosis of carotid stenosis based on Doppler criteria</th>
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<tbody>
<tr>
<td>overall</td>
</tr>
<tr>
<td>&lt;50</td>
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<tr>
<td>&gt;50 (at least one side &gt;50)</td>
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<tr>
<td>Total</td>
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Cumulative Stroke by CAS

p-value= 4532

Number of risk

- 0.00
- 0.01
- 0.02
- 0.03
- 0.04

Number of risk

- 0
- 1-49
- 50-100
Annual risk of ipsilateral stroke: 0.4%

Cardiovascular risk of carotid disease

Risk of asympt. carotid stenosis

VERY LOW RISK OF STROKE (0.5%/yr)

VERY high cardiovascular risk (3%/yr)

Plaque area

2D US Plaque area and risk of MI – men and women

Spence et al, stroke 2002

Tromsø Study

Johnsen et al. Stroke 2007
Plaque Burden

“Manual 3D” Cross-sectional Carotid Sweep

Area of all carotid plaques was summed yielding a continuous metric of total carotid atherosclerosis: carotid plaque burden (cPB)

Sillesen et al., JACC Img 2012

Cumulative MACE by Carotid Plaque Burden

Who should be screened?

- Vascular patients?
  - AAA (or other degenerative aneurysms)
  - PAD (CI and CLI)
  - Any other atherosclerotic disease

- NO – they should already be treated with intense preventive measures

- May increase your income but it does NOT benefit your patients
Who should be screened?

- Patients with other atherosclerotic manifestations – i.e. coronary disease?
  - **NO** – they should already be intensively treated …

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Sillesen & Falk, Lancet 2011

Net Reclassification Index for MACE

- CAC
- Carotid Plaque Burden

JACC 2015:1065-74

PESA study

- 4,002 middle age workers at Banco Santander
- All asymptomatic

Studied with:
- Carotid ultrasound
- Ilio-femoral ultrasound
- CT Coronary Calcium

Circulation 2015;131:2104-2113

Screening for atherosclerosis

- In theory, anyone above age 40-50 years
- Younger if family history
- Already atherosclerotic manifestations _ NOT _ necessary
- Great potential for prevention

Rather than looking for high-risk …

Look for low risk – especially relevant in the US
Thank you for your attention