The Case Against Screening for Carotid Stenosis

(like Lifeline who Profit):
It Would Lead to Un-needed & Harmful Treatments if Used for Carotid Procedures

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Disclosures

- I am a neurologist
- My academic work has been supported only by independent grants
- Founder of the Faculty Advocating Collaborative & Thoughtful Carotid Artery TreatmentS: FACTCATS.org

Screening Would Probably Mean More Procedures due to Payments for Procedures & Lack of Accountability

This would be very harmf
several reasons…

1. No Current Proven Procedural Benefit Due to Improved Non-Invasive Arterial Care

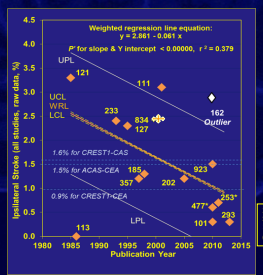
Advanced (≥50%) ACS & Non-Invasive Care Alone

Annual Ipsilateral Stroke Rate
(Raw data,%)

1.7% fall in Absolute Rate

≥67 % fall in Relative Rate to 0.8%

1985-2013



Updated meta-analysis to the end of 2013.
Abbott et al, Front Neurol, 2017:
https://doi.org/10.3389/fneur.2017.00537

≥56% lower since ACAS in 1995!

ACS Patients Now with Procedural Benefit are Rare (If Existent) & Unidentified Despite What Some Opinion Leaders Say

1. Silent infarct on CT
2. Asymptomatic stenosis progression
3. Large plaque area
4. Juxtaluminal black areas on U/S
5. Intra-plaque haemorrhage on MRI
6. Impaired CVR
7. Plaque echolucency on U/S
8. Transcranial embolic signals +/- echolucency
9. Contralateral TIA/stroke
10. Other (perhaps younger patients or 80-99% stenosis?)

Use of such unproven so called 'high stroke risk markers' leads to procedural overuse

Proposed by the European Societies for Vascular Surgery & Cardiology, 2017

3. Economic Harm

- USA in 2016: 51 million seniors aged ≥65:
  - 22.7 million men: 7% have ≥50% ACS
  - 28 million women: 5% have ≥50% ACS
- 3 million American seniors have ≥50% ACS
- > $USD 60 billion for procedures + more for complications + screening

https://www.indexmundi.com/united_states/age_structure.htm
O'Leary et al, Stroke 1992; Eslami et al, JVS 2011

4. The Screening Process Adds Costs & Risks of Harm

i. Small Stroke Risk with US

Papavasileiou et al 2015

- 0.015% of all duplex scans
- 0.015% of American Seniors = 450

Plus isolated reports: Friedman, 1990: Abbott 2000 (unpublished);

ii. False Positive 'Stenosis' Results: CEA/CAS/TCAR on Patients with No Stenosis

- Assume
  - 97% sensitivity & 93% specificity of 'quick' US for ≥50% CS
  - 97% sensitivity & 93% specificity of Duplex US for ≥50% CS
- Screen 51 million American seniors (≥65 yrs old):
  - 234,000 False Positives
  - *667,954 False Positives if Duplex specificity is 80%*
  - *1,002,000 False Positives if Duplex specificity is 70%*

Whitty et al JNNP 1998; Personal Communications with G Laveson 2022 re the 'Quick' US

Screening for ACS

- Will cause net harm & waste billions if used for procedures.
- Perhaps one day will improve non-invasive arterial care

'By the way, your insurance doesn't cover these tests… JUST KIDDING! That was the stress test…'

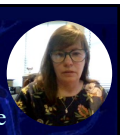
Screening for Carotid Stenosis in Symptomatic Patients

Could be justified if the aim is to deploy CEA (+ best non-invasive arterial care) in patients with net RT benefit:

- Life expectancy ≥3-5 years, satisfying RT selection criteria +
  - i. Men + 70-99% (without near occlusion)
  - ii. Women + 70-99% (without near occlusion)
  - iii. Men + 50-69% & CEA <2-3 weeks
- If 30-day CEA stroke or death rate is 'acceptable'
- Explain CEA benefit was small, collected 30-40 years ago & is outdated
- The option of non-invasive care alone is discussed

Rothwell et al 2004; Abbott et al, 2015; Shahidi et al 2013 & 2016: Fisch et al 2021

Lachlan Abbott



FACTCATS Website Creator;
Facilitator of Evidence-True Medicine

2001-2023

https://www.melbournefoe.org.au/lachlan_abbott_legacy