Screening for AF - Larger outcome studies

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AF screening – What do we know so far?

• Many different and feasible methods to detect AF are available

• The more we look, the more we find (1.5 % - 5% - 25%)

• High acceptance and compliance to OAC

• No obvious harm caused by screening!

• Opportunistic screening higher take-up than population screening
AF – screening what is it we do not know (but must know?)

• Can OAC treatment of screening detected AF, in risk groups, reduce the incidence of stroke?

• Hard endpoints are missing!
Clintrial.gov

- Key words: Atrial fibrillation, screening/detection

Hits  N = 309

Stroke not an outcome  N = 294

Stroke as an outcome  N = 15

Secondary end point  N = 9

Primary endpoint  N = 6
Studies with Stroke as secondary endpoint
N = 10

• Screen AF n= 822
• Vital AF n= 35 000
• PIAAF –FP n= 2174
• AFOSS n= 51 000
• Hong-Kong Outpatient n=500
• mSToPs n= 2224
• IDEAL n= 16000

Electronic alert 1 n= 400
Detect AF n=1600
Electronic alert 2 n= 1000
Large (>1500) randomized outcome studies with stroke as secondary end-point
n = 4

• VITAL
• Rx to intensive screening vs routine
• Single ECG at office visits
• N= 35000
• Primary endpoint: Incident AF during screening
• Recruiting (august 2018)
Large randomized outcome studies (n> 2000), stroke as secondary endpoint

• AFOSS
  • Observational, opportunistic vs standard care
  • Pulse palpation and ECG
  • N= 51000
  • Primary endpoint: New diagnosis of AF
  • Active, not recruiting (July 2018)
Large randomized outcome studies with stroke as secondary endpoint

- **mSTOPs**
  - Randomized early versus late monitoring
  - Patch sensor
- $n = 2224$
- Active, not recruiting (July 2018)
- Primary end-point: New diagnosis of AF
Large outcomes studies with stroke as secondary end-point

• **Ideal MD**
• Randomized opportunistic vs standard
• Single ECG
• N = 16 000
• Primary end-point: Newly detected AF
• Completed (july 2018)
AF screening with stroke as a primary outcome  N = 6

- Strokestop Pilot            Published Europace 2018
- Strokestop 1               Recruitment completed, awaiting follow-up
- Strokestop 2               Recruitment completed, awaiting follow-up
- Danish Loop Study          Recruitment completed, awaiting follow-up
- Safer                      Planning phase
- Detection AF               Not yet recruiting
STROKESTOP pilot study

Halmstad project
- All 75-76 yrs invited for screening
- 948 invited
- 65% participated
- If one additional risk factor (CHADS2)

8% AF and candidates for OAC treatment

Intermittent ECG
14 days 30 sec x 2
(Engdahl et al Circulation 2013)
From: A prospective 5-year follow-up after population-based systematic screening for atrial fibrillation
Europace. Published online April 24, 2018. doi:10.1093/europace/euy045
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Five year follow-up in Stroke Stop Pilot Study (Engdahl et al Europace 2018)

Incidence of all ischemic stroke between ages 76-80 y
(Per 1000 persons per year)

Before intervention
After intervention

Intervention area
Control area

*
"STROKESTOP I" study

- 28,757 individuals 75-76 yrs randomised for AF screening or no intervention

- Resting ECG and history

- If SR, Hand-held ECG 14 days, 2 x 30 sec.

- When AF is detected: Treatment with OAC

(Svennberg et al Circulation 2015)
Invited to screening n= 12 863

All residents born 1936 / 1937 n=28 757

Control group n= 14 374

Invited to screening n= 12 863

Attends screening clinic n= 6 887

New AF+ OAC initiation n = 354 (5.3%)

No new OAC initiation

Not participating

5 Years

• Ischaemic stroke
• Thromboembolism
• Mortality
• ICH
• Major bleeding
• Dementia

Svennberg et al, Circulation 2015
Prespecified Interim analysis
January 2018

1. Initiation of OAC – No safety problems.

2. Continued follow-up until all patients been followed for 5 years (2019)
Aim: To study the yield of AF screening in a high risk population with NT-proBNP enrichment.
Method

Randomization 26,000 individuals

Invited to screening 13,000 individuals

Attends screening 8,000 individuals (NT-proBNP 7300)

Control group 13,000 individuals

Declines 5,000 individuals

Known AF 700 individuals OAC, if not present

>120

2 weeks intermittent ECG recordings n=4800

<120

8686 patients included for screening.

Data to be presented
Sunday August 26, 12:03
Agora 2
5 year follow 2023
The Danish Loop study (as of June 14, 2018)

- Inclusion: At least 70 years and DM/HT/CHF/stroke
- Rx 1:3 Loop recorder vs control (1500 ILR vs 4500 controls)
- At least 3 years of follow-up
- AF defined as continuous AF for at least 6 minutes
- If AF, OAC is started
- F-Up until March 2019
- Primary end-point: Stroke + peripheral emboli
- Inclusion completed May 2016
Large randomized studies with stroke as primary end-point

- **Detection AF**
- Rx screening vs screening
- In-hospital risk patients
- Intermitten ECG
- N = 1600
- Five year follow-up
- Not recruiting (as June 2017)
The Safer Study
Conclusion

• Outcome studies with stroke as primary endpoint are urgently needed to verify whether AF screening is a cost-effective method to decrease the incidence of stroke
Methods/Results

Invited to screening $n=14\,365$

Attended screening $n=8\,686 (49.5\%)$

Previous AF $n=553 (8.1\%)$

Low risk group $n=2\,549 (40.4\%)$

High risk group $n=3\,766 (59.4\%)$

NT-proBNP$<$125ng/L

AF yield $n=1 (0.04\%)$

One index ECG

NT-proBNP$\geq125$ng/L

AF yield $n=29 (0.8\%)$

One index ECG

2w intermittent ECG

AF yield $n=135 (3.6\%)$

Total AF yield 4.4%

95% initiated on OAC
Results

Attends screening clinic n= 6,887 (52%)

Known AF n=636 (9.2%)

OAC treatment n=492

No OAC-treatment n= 144 (2.1%)

Intermittent ECG-recordings 2 weeks AF 3.2%

Referral to Cardiologist for OAC

Svennberg et al, Circulation 2015
Halmstad project

Results

Known AF – No OAC treatment 3 %
Resting ECG – New AF 1%
Intermittent ECG – New AF 4 %

Totally, 8% candidates for oral anticoagulation treatment

(Engdahl et al Circulation 2013)