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The virtual ESO-WSO 2020 Conference, jointly organised by the European Stroke Organisation and the World Stroke Organization, presents latest stroke research results and developments.

⇨ Find the Expert-Interviews to these studies here: https://eso-wso-conference.org/conference-news/

MonDAFIS: Systemic ECG monitoring improves detection of undiagnosed Atrial Fibrillation (AF) in stroke survivors but its impacts on stroke prevention in addition to standard of care ECG monitoring in-hospital is unknown. The 'Impact of standardized MONitoring for Detection of Atrial Fibrillation in Ischemic Stroke (MonDAFIS)' study provides new evidence from 3'470 randomized acute stroke patients in 39 stroke units in Germany on the additional benefit of systematic ECG monitoring in-hospital on long-term stroke prevention beyond the mere detection of undiagnosed AF. It showed that systematic in-hospital ECG monitoring over a period of up to 7 days can significantly increase the detection rate for previously undetected atrial fibrillation; however this had no significant effect on the rate of anticoagulation at 12 month or a composite outcome of stroke recurrence major bleeding, MI or death within 24 month.

ASCOT: Long-term follow-up of UK participants of the ASCOT trial ('Anglo-Scandinavian Cardiac Outcomes Trial') showed that better blood pressure control during the trial years (1998-2002) by an amlodipine-based therapy lowered stroke risk for up to 20 years.

MonDAFIS

Systematic monitoring for atrial fibrillation in stroke patients

Long-term ECG monitoring of stroke patients on "stroke units" over a period of up to 7 days can significantly increase the detection rate for previously undetected atrial fibrillation, however this had no significant effect on the rate of anticoagulation at 12 month or a composite outcome of stroke recurrence major bleeding, MI or death within 24 month.
This is the result of the German MonDAFIS study, which was recently presented at the ESO-WSO 2020 conference.

Existing untreated atrial fibrillation raises a person's risk of having an ischaemic stroke 4-5 times over, because thrombi can form in the left atrium of the heart and go from there through the blood stream

into the brain. Systematic ECG monitoring increases the detection rate of covert intermittent atrial fibrillation, however it is unclear whether prolonged ECG monitoring has an impact on secondary prevention (i.e. rate of anticoagulation) and ultimately cardiovascular endpoints.

In a randomised prospective study involving 38 stroke units in Germany, the investigators (K. G. Häusler, M. Endres et al.) examined whether subjecting stroke patients without known AF to up to seven days of continuous ECG monitoring (with a Holter monitor) compared to standard diagnostic ECG work up in Germany (average duration 72 hours) during their stay in the hospital can lead to increased diagnosis of atrial fibrillation. It was also examined whether this would result in a higher rate of anticoagulation therapies after twelve months and to fewer acute cardiovascular events within 24 months.

Between December 2014 and September 2017, a total of 3,431 patients were randomised in the MonDAFIS Study (1,714 patients being assigned to the intervention group with prolonged Holter monitoring and 1,717 patients being provided with standard care). The average age was around 66 years (+/- 13). Baseline characteristics were balanced between the groups and typical for an ischemic stroke cohort, with about 40% were women, 25% diabetics and 76% had high blood pressure. With a median NIHSS score of 2, these patients were classified as having mild stroke symptoms. During their hospital stay, the members of the intervention group underwent a median duration of continuous ECG monitoring of 120 hours (IQR 73-166 hours) or about five days.
The results:

- In the control group not undergoing continuous ECG monitoring beyond clinical routine work-up, atrial fibrillation was detected in 4.0% of the patients. In the intervention group 5.8% of the patients were diagnosed with atrial fibrillation. This difference was statistically significant (p=0.02).
- In both patient groups, the rate of newly detected atrial fibrillation cases after hospital discharge was 4%, thus a total of 8.1% of the control group and 9.7 % of the intervention group (not a statistically significant difference) were diagnosed with atrial fibrillation by 12 month of follow-up.
- After 12 months, 11.8% of the patients in the control group received oral anticoagulation medication (to thin their blood), in the intervention group the percentage was 13.7%. This was not a statistically significant difference (p=0.134).
- There was also no statistically significant difference when the rate of total recurrent strokes, myocardial infarction or death occurring within 24 months was analysed. Only the subcategory of overall mortality (from all causes) took a surprising turn, with a mortality of 6% in the control group (no in-hospital Holter monitoring) and 4.3% in the intervention group. This is a statistically relevant difference (p=0.025).

In summary, the systematic ECG monitoring has led to an increased detection rate for atrial fibrillation while the stroke patients were hospitalized, especially among elderly patients. However, this did not significantly increase the percent of patients who took an oral anticoagulation therapy after 12 months.

Also, there was no significant difference in the rate of cardiovascular events within 24 months. A long-term reduction of all-cause mortality was observed, but this could not be explained by a reduction of strokes.

ASCOT

Better management of midlife stroke risk factors might reduce the risk of dementia and stroke in later life. In a long-term follow-up of the randomized Anglo-Scandinavian Cardiac Outcome Trial (ASCOT), William Whiteley (University of Edinburgh) and his team analyzed whether more efficient blood pressure (BP) lowering or statin therapy during the trial years confer protection against dementia or stroke for up to 20 years.

ASCOT is a randomized trial in patients with hypertension that compared two different blood pressure lowering regimens. Each person's blood pressure was either managed with an amlodipine regimen (calcium antagonist) or an atenolol regimen (beta blockers) for 5.5 years. In those with a high cholesterol, a statin (atorvastatin) was compared with placebo for 3.3 years. After 20 years of the trial starting, we assessed how many people had been admitted to hospital with a stroke or dementia in the UK National Health Service (NHS) using electronic health records.

Key findings

8.580 UK participants of ASCOT were included in the analysis.

- Amlodopine-based BP therapy achieved better BP control (by 3/2 mm Hg) and significantly reduced stroke risk (443 vs 522, adjusted HR: 0.82 95%CI: 0.72-0.93, p=0.003), but not dementia (450 vs 465, adjusted HR 0.94 (95%CI: 0.82-1.07, p=0.33). Study participants who suffered stroke during follow-up were at substantially increased risk of dementia, however.
- Atorvastatin therapy for 3.3 years did not reduce stroke risk (264 vs 272, adjusted HR 0.92, 95%CI: 0.78-1.09, p=0.34).

What are the limitations?

No information on BP control and lipid therapy after the trial years (1998-2002) are available. Statin therapy was given for only 3.3 years and in a relatively low dose, which is probably too little for long-term effects to emerge. Strokes and dementia during follow-up was ascertained using medical records rather than contacting each person.

What is new?

Efficient BP management in midlife for 5.5 years still had detectable effect on the risk of stroke 20 years later.

Additional information, including video interviews with principle investigators and summary slides are available on the ESO-WSO 2020 Media Portal https://eso-wso-conference.org/media-portal/

You can find the recording of yesterday's press conference on the media portal: https://eso-wso-conference.org/media-portal/

Issued by the ESO-WSO 2020 PR Committee

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Many thanks in advance!