

MYOCARDIAL INFARCTION

Flu vaccination shortly after MI reduces the risk of complications

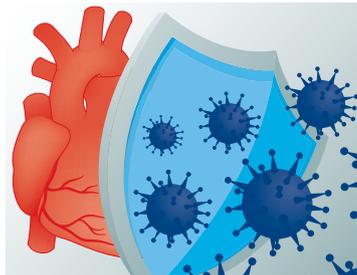
Influenza vaccination shortly after a myocardial infarction (MI) or in high-risk coronary heart disease reduces the risk of future cardiovascular events, according to findings from the IAMI trial presented at the ESC Congress 2021.

Influenza infection is known to be associated with an increased risk of cardiovascular events, and small, randomized trials and observational studies have suggested that the influenza vaccine might reduce the risk of cardiovascular events in patients with cardiovascular disease. “We have, for the first time, confirmed this in a well-powered trial, showing that the influenza vaccine works and saves lives after MI,” comments Ole Fröbert, lead author of the IAMI study.

IAMI was an investigator-initiated, double-blind, randomized, controlled trial conducted in eight countries. The 2,571 trial participants were assigned to receive either

inactivated influenza vaccine or saline placebo, administered shortly after hospital admission for MI (99.7% of patients) or high-risk stable coronary heart disease (0.3%). Of note, the trial was halted before reaching the prespecified sample size owing to the COVID-19 pandemic.

At 12 months, influenza vaccination was associated with a 28% reduction in the risk of a composite of all-cause death, MI or stent thrombosis (the primary outcome) compared with placebo (5.3% versus 7.2%; HR 0.72, 95% CI 0.52–0.99, $P=0.040$). Influenza vaccination also



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reduced by 41% both all-cause mortality (2.9% versus 4.9%; HR 0.59, 95% CI 0.39–0.89, $P=0.010$) and cardiovascular mortality (2.7% versus 4.5%; HR 0.59, 95% CI 0.39–0.90, $P=0.014$). Finally, an exploratory meta-analysis including data from this trial and from three previous smaller randomized trials showed a 50% reduction in the risk of cardiovascular death at 1 year in patients receiving influenza vaccination.

“These findings suggest that a flu shot in hospital to patients treated for MI should be implemented,” says Fröbert. Looking to the future, Fröbert highlights the need for a better understanding of the potential mechanisms. “The influenza vaccine seems to do more than protect against influenza,” he explains, “and many indications from animal and some human studies suggest that the vaccine modulates inflammation (important in MI) and prevents (indirectly) thrombosis”.

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ORIGINAL ARTICLE Fröbert, O. et al. Influenza vaccination after myocardial infarction: a randomized, double-blind, placebo-controlled, multicenter trial. *Circulation* <https://doi.org/10.1161/CIRCULATIONAHA.121.057042> (2021)

ARRHYTHMIAS

Screening strategies for AF

The STROKESTOP trial and The LOOP study, both presented at the ESC Congress 2021, used different approaches to screen for atrial fibrillation (AF), with the aim of initiating oral anticoagulation (OAC) to prevent stroke and death.

In the STROKESTOP trial, all 28,768 individuals aged 75–76 years and resident in Halland or Stockholm, Sweden, were randomly assigned to be invited for screening for AF or to a control group. Of those invited to screening, 51.3% attended, and those without a history of AF were asked to submit intermittent electrocardiograms for 14 days. OAC was offered if AF was detected or untreated. After follow-up (median 6.9 years), the primary end point (a composite of ischaemic or haemorrhagic stroke, systemic embolism, bleeding leading to hospitalization, or all-cause death) occurred in 31.9% of the intervention

“A challenge is to define a ‘safe’ level of paroxysmal AF”

group and 33.0% of the control group (HR 0.96, 95% CI 0.92–1.00, $P=0.045$), indicating a small net benefit of the screening strategy. However, the 48.7% of individuals who declined the invitation for screening had a worse demographic and socioeconomic profile and, therefore, a higher risk of AF and stroke than those who attended, highlighting an important limitation of this population-based approach.

In The LOOP study, conducted in four centres in Denmark, 6,004 individuals without AF, aged 70–90 years and with at least one additional risk factor for stroke were randomly assigned 1:3 to receive an implantable loop recorder (ILR) or usual care. During follow-up (median 64.5 months), AF was diagnosed in 31.8% of the ILR group and in 12.2% of the control group. OAC was initiated in 29.7% and 13.1% of each group, respectively. However, the rate of the primary outcome (time to first stroke or systemic

arterial embolism) was not significantly different between the two groups (4.5% versus 5.6%), nor was the rate of major bleeding (4.3% versus 3.5%).

The findings from The LOOP study suggest that shorter episodes of AF that are detected with the use of ILRs might not confer the same risk of stroke as AF detected through single time point or less intense monitoring (as used in the STROKESTOP trial). A challenge is to define a ‘safe’ level of paroxysmal AF in prolonged, continuous recordings that does not lead to a substantially increased risk of cardioembolic stroke and, therefore, does not warrant OAC.

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ORIGINAL ARTICLES Svennberg, E. et al. Clinical outcomes in systematic screening for atrial fibrillation (STROKESTOP): a multicentre, parallel group, unmasked, randomised controlled trial. *Lancet* [https://doi.org/10.1016/S0140-6736\(21\)01637-8](https://doi.org/10.1016/S0140-6736(21)01637-8) (2021) | Svendsen, J. H. et al. Implantable loop recorder detection of atrial fibrillation to prevent stroke (The LOOP Study): a randomised controlled trial. *Lancet* [https://doi.org/10.1016/S0140-6736\(21\)01698-6](https://doi.org/10.1016/S0140-6736(21)01698-6) (2021)
RELATED ARTICLE Freedman, B. et al. Management of atrial high-rate episodes detected by cardiac implanted electronic devices. *Nat. Rev. Cardiol.* **14**, 701–714 (2017)