

Fully Funded Research Year Project at the Department of Clinical Epidemiology within Pharmacoepidemiology and Cardiovascular Epidemiology

Title: Statin Intensity and Risk of Cardiovascular Disease in Younger and Older Adults with Ischemic Stroke

Background

The global burden of stroke is rising as the prevalence is increasing. Stroke survivors are at increased risk of recurrence – an event often more severe than the first – and other cardiovascular events such as acute myocardial infarction. Optimal secondary prevention centers on the identification of the underlying stroke cause and managing vascular risk factors, e.g. hypercholesterolemia.

Current treatment guidelines in both Europe and the United States recommend high-intensity statins after ischemic stroke, unless contraindicated. However, the evidence that high-intensity statins are associated with better outcomes than moderate- or low-intensity statins following ischemic stroke is inconclusive: Randomized trials did not investigate the effect of dose or intensity, while findings from studies using real-world data (*i.e.* observational studies) have been heterogeneous. Thus, the evidence base for the current treatment guidelines is questionable.

Several other questions remain unanswered: First, it is poorly understood whether the preventive effect of statins after stroke differs according to age. No data exists on statin intensity in younger adults. Incidence rates of first strokes in younger adults have been stable or rising in recent years, underlining the importance of studying the potential age heterogeneity in stroke research. Second, prior reports on the safety and effectiveness of statins were relatively small in size, preventing subgroup analysis among patients with/without e.g. atrial fibrillation or preexisting atherosclerotic disease. In addition, randomized studies of statins were underpowered to study adverse events e.g. diabetes, cancer, and hemorrhagic stroke. Third, following ischemic stroke, patients are at risk of not only recurrent stroke but also other major cardiovascular events. Whether high-intensity statins reduce this risk is plausible, but firm evidence from a real-world population-based setting is lacking.

More info about the project

The project will make use of the extensive web of Danish, nationwide, population-based registries.

We are looking for an ambitious research year student with an interest in pharmacoepidemiology/cardiovascular epidemiology. The project is scheduled to start 1 February 2021. You will become part of a dedicated team of researchers within the field and an internationally leading research department. You will work closely with both other research year students, PhD students, and senior researchers. The project could include international collaboration (eg. Harvard University, Boston University, London School of Hygiene and Tropical Medicine), and a research stay at one of these institutions could be an option during the year.

The project is fully funded, but we expect you to take an active role in applying for funding, of course with the necessary supervision. We expect at least one publication in an international peer-reviewed journal with you as the first author. A detailed protocol and the necessary data to conduct the project is available.

If you are interested in joining our group, please send us a motivation and your CV in Danish or English. Please note that the deadline for applying for a research year is 15 October 2020.

Supervisors

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