Abstract: P1588

Beta-blocker therapy and risk of dementia: a population-based prospective study

Authors:
H Holm1, F Ricci2, G Di Martino2, E Bachus1, ED Nilsson3, P Ballerini2, O Melander1, O Hansson3, K Nagga3, M Magnusson4, A Fedorowski4, 1Skane University Hospital, Department of Clinical Sciences, Lund University - Malmö - Sweden, 2G. d Annunzio University - Chieti - Italy, 3Skane University Hospital, Memory Clinic, Skåne University Hospital - Malmö - Sweden, 4Skane University Hospital, Department of Cardiology, Skåne University Hospital, Malmö - Malmö - Sweden,

On behalf: HAARVEST

Topic(s):
Beta Blockers

Citation:

Introduction
Cerebral side effects have long been recognized as complications to beta-blocker treatment. However, evidence of a longitudinal relationship between the use of beta-blockers and incident dementia is still controversial.

Objective
To evaluate the longitudinal relationship between use of beta-blockers, as a class, and incident risk of all-cause dementia, vascular dementia, Alzheimer and mixed dementia.

Methods
From the prospective, population-based, Malmö Preventive Project, 18,063 individuals (mean age 68.2, males 63.4%) were included at baseline and followed for 84,506 person-years. Patients with prevalent cerebrovascular disease and dementia were excluded. In order to weight the risk of incident dementia associated with beta-blocker consumption, we performed propensity score matching analysis, resulting in 3,720 matched pairs of beta-blocker users and non-users at baseline, and multivariable Cox proportional-hazards regression.

Results
Overall, 122 study participants (1.6%) were diagnosed with dementia over the course of follow-up. Use of beta-blockers was independently associated with increased risk of developing vascular dementia, regardless of confounding factors (HR: 1.72, 95%CI 1.01-3.78; p=0.048). Conversely, treatment with BB was not associated with increased risk of all-cause, Alzheimer and mixed dementia (HR:1.15; 95%CI 0.80–1.66; p=0.44; HR:0.85; 95%CI 0.48–1.54; P=0.59 and HR:1.35; 95%CI 0.56–3.27; p=0.50, respectively).

Conclusions and Relevance
We observed that use of beta-blockers, as a class, is associated with increased longitudinal risk of vascular dementia in the general elderly population, regardless of cardiovascular risk factors, prevalent or incident history of atrial fibrillation, stroke, coronary events and heart failure. Further studies are needed to confirm our findings in the general population and to explore the mechanisms underlying the relationship between use of beta-blockers and increased risk of vascular dementia.