Antihypertensive treatments, prevention of cognitive decline and dementia
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Start date: 2012
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2013: PharmD in Hospital Pharmacy, University Toulouse III
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Background:
Dementia, especially Alzheimer’s disease, is a major public health concern because of the increase in life expectancy. Determining the potentially modifiable risk factors is an efficient strategy to prevent, or at least delay, the onset of clinically significant symptoms. Hypertension, particularly in midlife, has been associated with an increased risk of developing cognitive decline and dementia. Vascular modifications, which affect blood flow and cerebral metabolism, may be major biological pathways linking hypertension and cognitive disorders. In this context, antihypertensive drugs might have a preventive effect but the association remains poorly understood.

Systematic review of the epidemiologic data linking antihypertensive treatment to cognitive decline and dementia

Findings from the VISAT longitudinal study
The VISAT study is a 10-year prospective multicenter cohort study whose aim is to underline the long-term impact of working conditions on health and ageing. 3237 subjects aged 32, 42, 52 and 62 years were included.

The aim of our study is to compare the cognitive trajectories of individuals with and without hypertension and to study the potential effect modification by antihypertensive treatment status, particularly calcium channel blockers and renin-angiotensin system blockers. Hypertension will be defined as either high BP (mean systolic BP ≥ 140 mmHg or mean diastolic BP ≥ 90 mmHg) or current use of antihypertensive medication. Participants with hypertension will be divided into controlled hypertension (medication use and normal BP), uncontrolled hypertension (medication use and high BP) and untreated hypertension (no medication use and high BP). Subjects with no medication use and normal BP will represent the control group.

A principal component analysis (PCA) has already been performed to summarize information from the cognitive tests (memory, information processing speed component and visual attention). Linear mixed models will be used to answer the research question.

Perspectives
Patients with mildly or moderately severe Alzheimer’s disease: the ICTUS Study. Can antihypertensive drugs have a positive impact on cognitive decline for patients already suffering from dementia?

Publications: