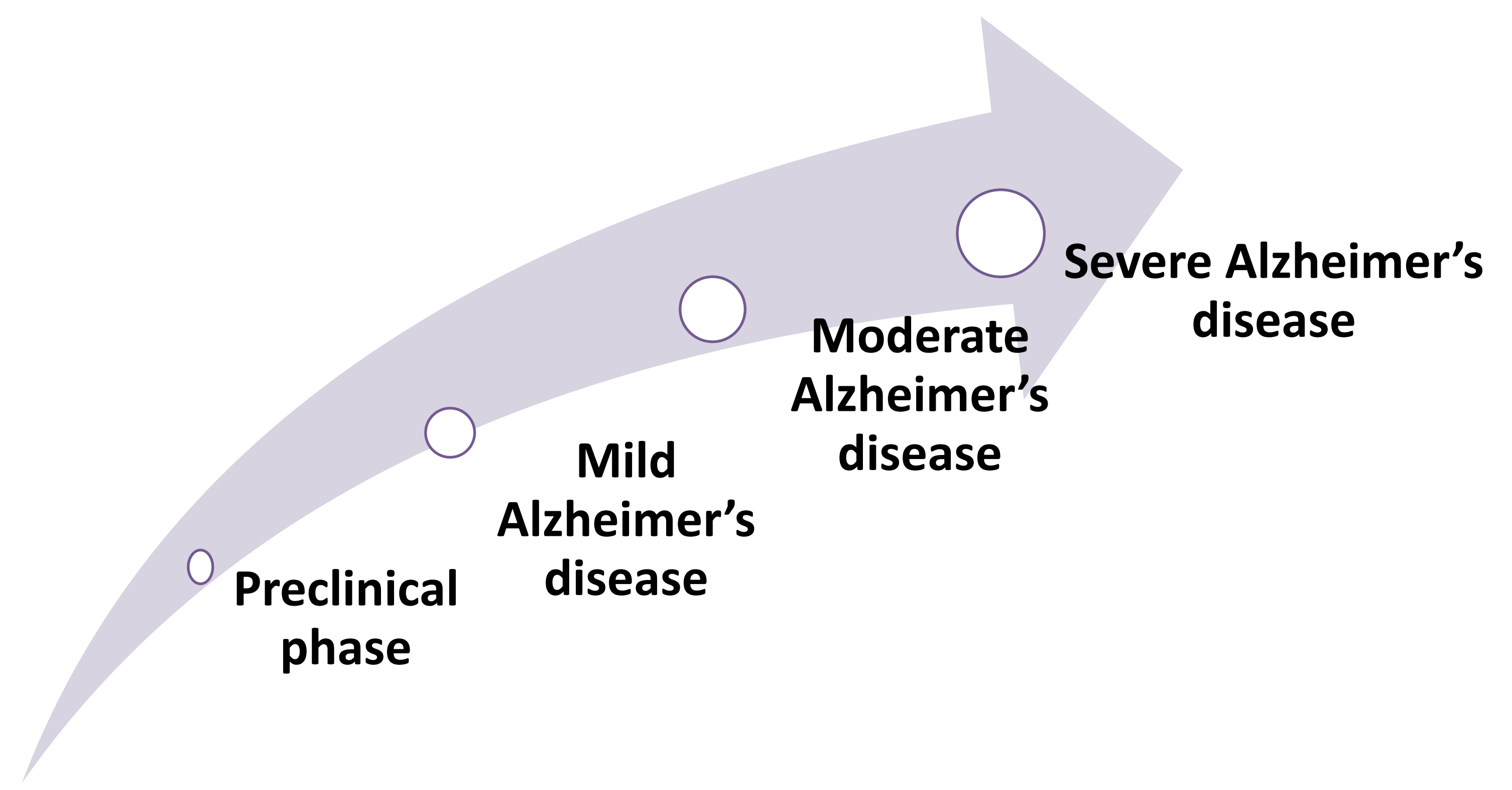


REVIEW OF ALZHEIMER'S DISEASE: TREATMENTS AND NEW PHARMACOLOGICAL STRATEGIES

INTRODUCTION

Alzheimer's disease (AD) belongs to a group of pathologies generally referred to as dementias, this being the most common type. It is a neurodegenerative disease that causes progressive and disabling impairment of cognitive functions (memory, comprehension, language, attention, reasoning and judgment). There is no cure for AD, although there are treatments that can improve symptoms and slow down the process.



PHYSIOPATHOLOGICAL MECHANISM

Its physiopathological mechanism is unknown. The presence and accumulation of **abnormal neuritic plaques** and **neurofibrillary tangles** are interpreted as residual structures of the disease.

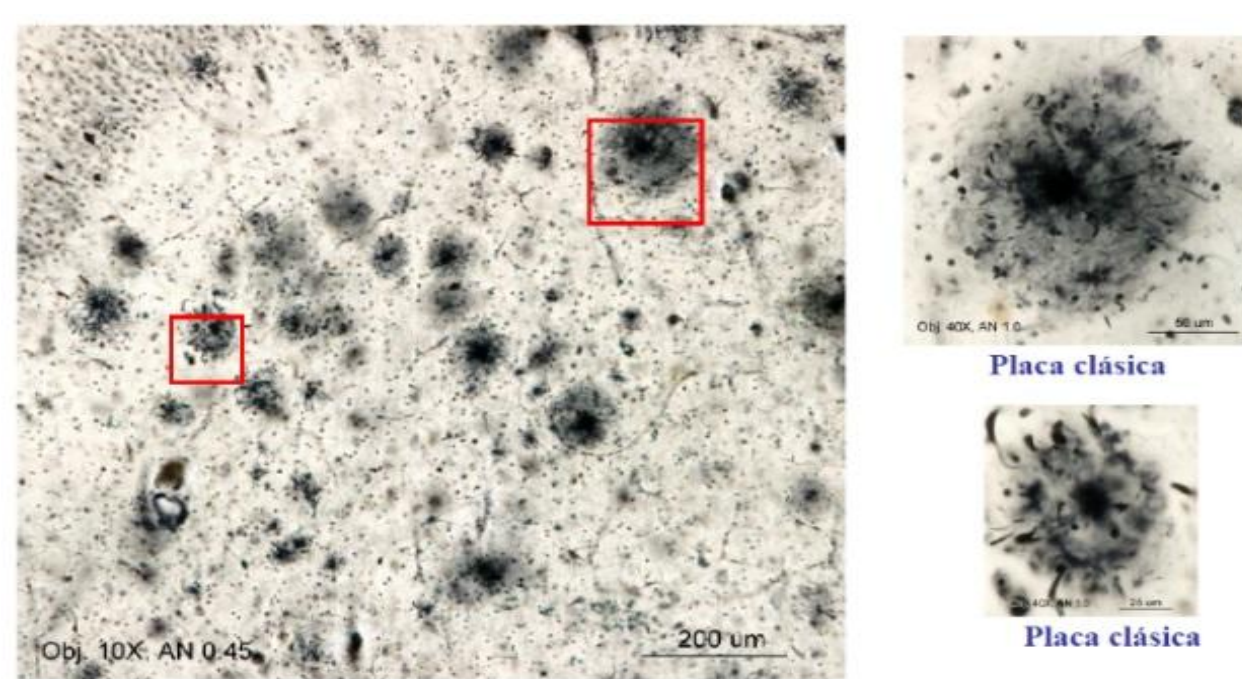


Figure 1: Images of different amyloid plaques obtained by the Bielschowsky method

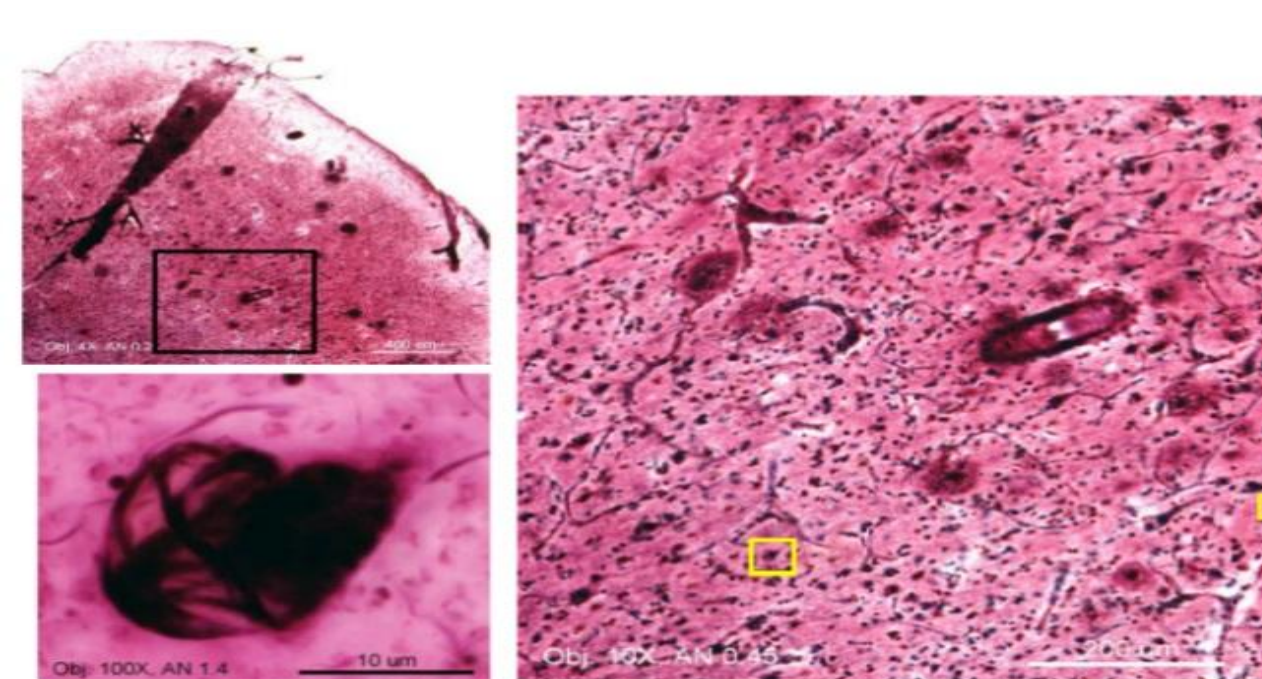


Figure 2: Images of neurofibrillary tangles obtained by the ammoniacal silver oxide method

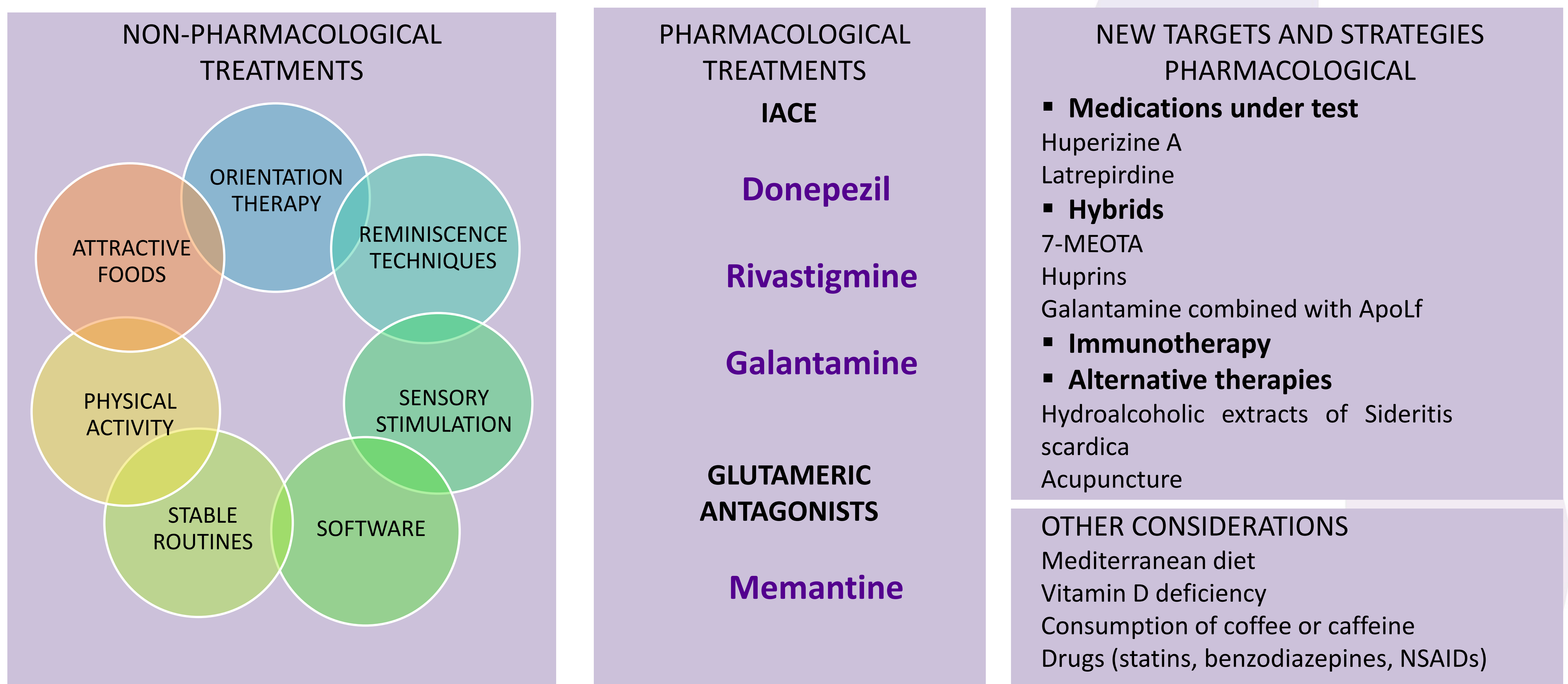
DIAGNOSTIC TECHNIQUES

Early diagnosis through **biomarkers** facilitates the implementation and monitoring of early therapeutic interventions to modify the course of the disease. They are found in the cerebrospinal fluid and are the **β -amyloid 42 peptide**, the **tau protein** and the **phosphorylated tau protein**.

PROGNOSIS

The risk factors of dementias are divided into **non-modifiable** (age, female sex, genetic background) and **potentially modifiable** (vascular risk factors, hypertension, hypercholesterolemia, diabetes mellitus, smoking, etc.).

RESULTS



CONCLUSIONS

- Despite numerous investigations, the causes and pathophysiological mechanisms of AD are not yet known.
- At present it is only possible to alleviate the symptoms and slow down the progress of the disease, through both pharmacological and non-pharmacological processes.
- The investigation of new treatments is progressing positively.
- It is one of the pathologies that will increase the most in the coming years.
- Huperizine A mucoadhesive and immunotherapy as hopeful lines.
- Results of the analysis of dispensations: donepezil as preferred treatment. In addition, we observe that in aging segments of the population, there is an increase in AD.

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ANALYSIS OF DISPENSATIONS IN THE LAST 12 MONTHS

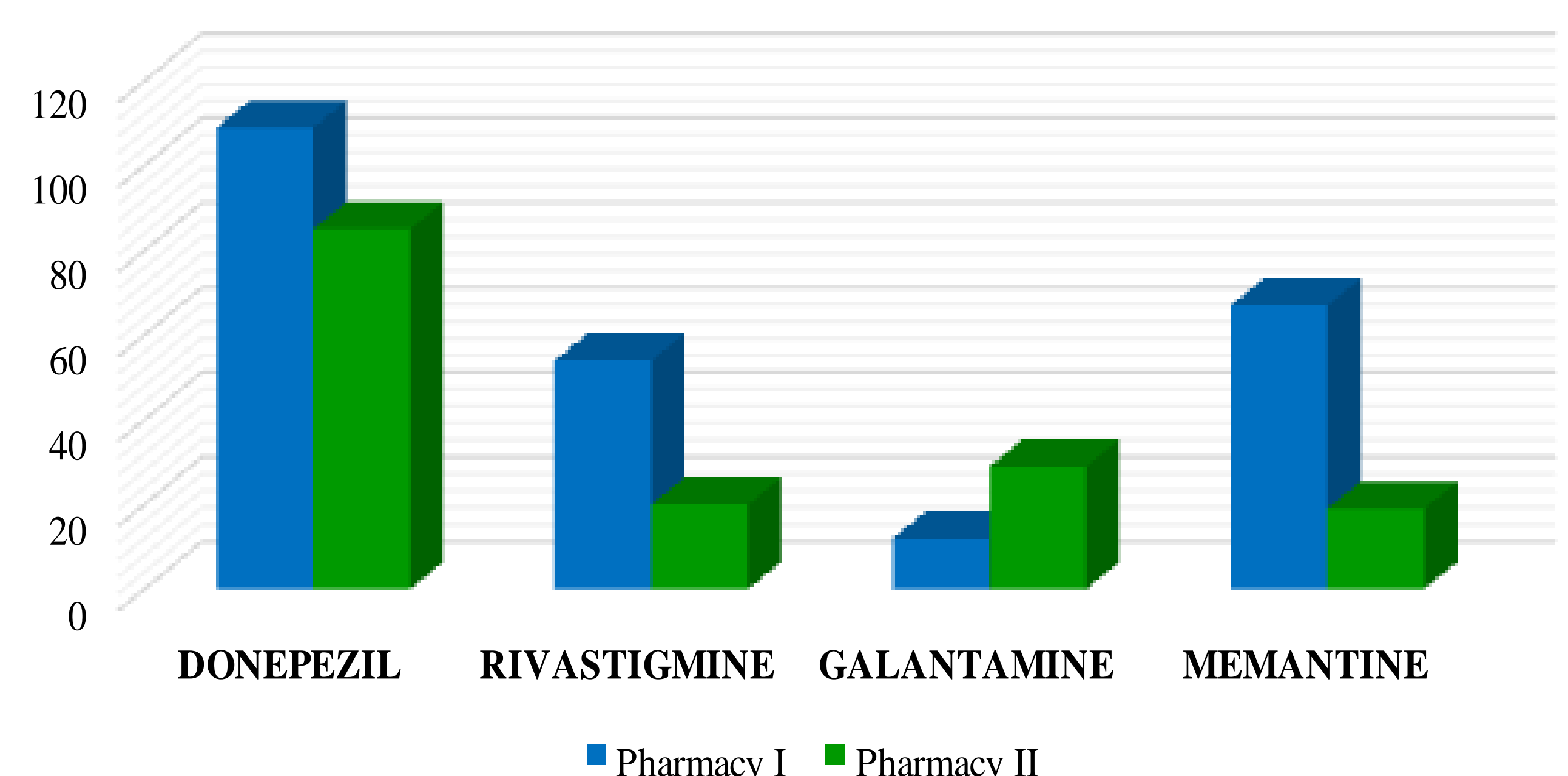


Figure 3: Dispensed units of drugs for the treatment of AD in 2017. Data obtained from Pharmacy I and Pharmacy II