Search for biomarkers for early detection of Alzheimer's disease in the Vallecas project cohort

The *Vallecas Project* is carried out at the Research Unit of the **Alzheimer's Center** of the **Reina Sofía Foundation** by researchers of the **CIEN Foundation**. Its main objective is to determine a probabilistic algorithm for the identification of individuals at risk of expressing some kind of dementia like **Alzheimer's disease** (AD) in the course of the following few years. This algorithm is based on the combination of sociodemographic, clinical, neurological, neuropsychological, biological (from blood samples) and neuroimaging (3 Tesla magnetic resonance modalities) data.

The CIBER-BBN participates in this project through the following three research groups:
- The Group of Applied Molecular Chemistry, led by **Ramón Martínez Mánez** at the Universidad Politécnica of Valencia
- The Biomedical Imaging Group, led by **Javier Pavía** at the Cliníc Hospital and the Universitat de Barcelona
- The Bioengineering and Telemedicine Group, led by **Francisco del Pozo** at the Biomedical Technology Center of the Universidad Politécnica of Madrid.

CIBER-BBN´s involvement in the Vallecas project is aiming to the integration of new, essential data that are coming from the large sample of over 1200 healthy elderly individuals (male and female) that they are followed-up in the 5-year longitudinal study of the original project. At each yearly visit, volunteers undergo detailed neuropsychological and clinical evaluation, serum biochemistry analysis, as well as a comprehensive magnetic resonance imaging (MRI) protocol, combined with the genetic data acquired on visit 1. On follow-up, some volunteers go from healthy to a state of mild cognitive impairment (MCI) or mild dementia. The goal of the project is to retrospectively determine biomarkers in healthy individuals which predict subsequent development of MCI and eventually AD. The novelty of this project and the significant advance, is that it will identify changes in the brain or in the blood, present in groups of healthy elderly people that are indistinguishable in the clinical setting, and that differ only subsequently in the development of MCI.

Funding: 217.800 €
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http://www.fundacioncien.es/proyectos-de-investigacion/proyecto-vallecas