The PESA CNIC-Santander study consolidates itself as the most important study in the world in the diagnosis and prevention of cardiovascular diseases

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The findings of this study have been key for the development of REACT, a new research project, that will count on the collaboration of Santander Bank, and will expand the study of the age group for the prevention of cardiovascular diseases, which will include 8,000 new participants.

The PESA CNIC-Santander study, led by Dr. Valentín Fuster, and with the collaboration of Santander Bank, consolidates itself as a world reference in the prevention and diagnosis of cardiovascular diseases. With a 15-year track record, this project has analyzed the health of more than 4,000 employees at Santander Bank, between the ages of 40 to 54, using advanced imaging technology and blood biomarkers to detect silent atherosclerosis in its early stages.

Among its findings, the study highlights that 63% of asymptomatic participants show signs of atherosclerosis in its early stages, a process that can be reversed with lifestyle changes. Moreover, it's been shown that this disease not only affects the big arteries, but also microcirculation, potentially affecting mental health and the risk of diseases such as Alzheimer.

Dr. Valentín Fuster, General Director of the National Centre of Cardiovascular Research (CNIC), and Ana Botín, President of Santander Bank, presented the main conclusions of the PESA CNIC-Santander study to employees of the bank and members of the CNIC. This study has become a unique worldwide database for the prevention and treatment of cardiovascular diseases, marking a scientific milestone for the promotion of health.

The PESA CNIC-Santander study has allowed for the expansion of knowledge in how atherosclerosis develops in its early stages. Thanks to the use of advanced imaging technology and the analysis of blood biomarkers, the study has been able to detect this silent disease before the appearance of symptoms and has laid the foundation for developing new prevention and treatment strategies.

Public-private collaboration

During the event, Ana Botín highlighted: "Public-private collaboration is essential to approach the big challenges of our society, especially in the field of scientific and medical research. The PESA CNIC-Santander study is a clear example of how joining forces can generate significant advances that benefit all of society. These types of alliances not only allow innovation and leadership in the scientific field, they also show our commitment to contribute to the health and well-being of people".

On his part, Dr. Valentín Fuster highlighted: "**The PESA CNIC-Santander study has not only transformed our understanding of the cardiovascular disease**, it also lays down the groundwork for developing more effective prevention and treatment strategies, that are beneficial to all of society. We have laid the foundation for demonstrating that, with appropriate and timely interventions, not only is it possible to prevent the progression of these diseases, but also reverse them.

The PESA CNIC-Santander study reveals that 63% of the asymptomatic participants between the ages of 40 and 55 show signs of atherosclerosis, a systemic condition that affects large arteries as well as the microcirculation of the heart and the brain. Although historically considered irreversible, it can improve with healthy habits and early control of risk factors like high cholesterol, hypertension, obesity, insulin resistance and high triglycerides. Moreover, atherosclerosis speeds up biological aging and is linked to cerebral hypometabolism and the risk of Alzheimer. Sustained lifestyle changes can prevent its progression and reduce cardiovascular and cognitive risks.

The event also served to announce the start of the project: REACT, a new study that has its roots in the advances of the PESA CNIC-Santander study. This project, led by the CNIC and Rigshospitalet of Denmark, will analyze 16,000 people between the ages of 20 and 70, 8,000 of these in Spain, with the aim of implementing a precise medical approach in the prevention of atherosclerosis. The study

intends to collect a representative sample of the Spanish population, hence including people from different social and geographical strata. For this purpose, of the 8,000 participants, a significant proportion will be selected among Santander Bank employees, their family members and the banks' service providers, who show interest in participating, in this way reaffirming the bank's commitment to research in the cardiovascular field. Santander Bank will also collaborate with REACT, by making the facilities of their medical center available for this study.

REACT will have two phases: in the first, non-invasive imaging studies of different arterial territories, including the coronary arteries and the retina, and the blood biomarkers will be analyzed with the most sophisticated technology to detect the disease in a more precise way. The impact of lifestyle (diet, exercise, sleep, etc.) on the appearance of this silent disease will also be evaluated. In the second phase, new personalized strategies will be developed to intervene in the initial phases of atherosclerosis and reduce the impact of the disease on the population.

With this new collaboration, the CNIC and Santander Bank, continue a nearly 20-year collaboration that keeps on generating scientific breakthroughs with a global impact on cardiovascular health.

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