Título del Proyecto	CARdiomyopathy in type 2 DIAbetes mellitus' 'CARDIATEAM'
Nº de expediente asignado	G.A. Number 821508
Abstract	A rapidly evolving epidemic in Type 2 Diabetes (T2DM) is afflicting all ages, sexes and socioeconomic classes which includes serious comorbidities such as heart diseases. While ischaemic heart disease represents the major cause of death of T2DM patients, heart failure (80% of Heart Failure with preserved Ejection Fraction) is the second most common cardiovascular disease in T2DM patients. The aim of CARDIATEAM is to determine whether T2DM represents a central mechanism contributing to the pathogenesis and progression of a specific cardiomyopathy, called "diabetic cardiomyopathy" (DCM), assessing whether DCM is unique and distinct from the other forms of heart failure. To achieve this aim CARDIATEAM will build up a deeply phenotyped cohort, including an innovative imaging protocol, based on privileged access within the CARDIATEAM to already existing highly pertinent cohorts of diabetes and heart failure patients and control groups. Central biobanking of the cohort samples will allow detailed omics analysis that will feed together with the phenotype and imaging data into the central CARDIATEAM database. The data gathered will enable unsupervised machine-learning for clustering this heterogeneous population on phenotypic differences beyond

	diabetes. State-of-the-art big-data processing techniques and disease modeling will allow for controlling for common confounders such as BMI, smoking, age and blood pressure and will finally lead to the identification of new imaging and molecular biomarkers as well as understanding the taxonomy of the development and progression of DCM. Tailored preclinical models will be developed to explore the identified pathways revealing new therapeutic targets. The results of CARDIATEAM will be able to impact clinical care with the stratification of patients into risk groups of developing DCM, earlier diagnosis of DCM and an improvement of therapy thanks to better assessment of underlying pathophysiology and identification of new biomarkers.
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