The PRECISESADS Project: Towards a new molecular classification of Autoimmune Diseases

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PRECISESADS: Towards a new molecular classification of Autoimmune Diseases

Clinical Diagnosis → Study Cohort → Blood Molecular Information → Molecular reclassification

- SLE
- RA
- SJS
- PAPS
- UCTD
- MCTD
- SSc

Shared phenotypes and Molecular mechanisms Between diseases

Heterogeneous diseases

~600 Controls
~2000 Cases

Transcriptomics
Epigenomics
Genomics
Flow-cytometry
Proteomics
Metabolomics
Serology

Different treatment responses between patients

New molecular classification
Molecular homogeneous groups of patients

Precision medicine
Longitudinal Stratification of Gene Expression Reveals Three SLE Groups of Disease Activity Progression

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Clinical characterization

- We obtained three subgroups of Lupus patients based on longitudinal gene expression data and disease activity patterns.
- The subgroups are functionally and clinically different. Group 3 is mediated by lymphocyte functions, group 2 is mediated by neutrophil functions and Group 1 has heterogeneous functions.
- Group 1 is characterized by the enrichment of patients that develop proliferative and severe nephritis.
- These results suggest a new classification of Lupus patients based on molecular data that opens a new scenario for a better diagnosis and therapeutic interventions.