associated with multidimensional paper-and-pen measures of apathy, including the default mode and the cingulo-opercular networks. We will also show how dimensional reduction (functional principal component analysis) of 3 days actimetry measures are associated with both FC and inflammatory measures (diffusion and multicompartment indices such as free water and neurite orientation dispersion), providing arguments for different pathophysiological mechanisms underlying goal-oriented behaviors and reinforcing actimetry as a good candidate for individual biomarker of cognitive decline in LLD. Finally, machine learning approaches using combination of different, yet correlated, indices of actimetry will be presented and discussed with their corresponding classifying accuracies (outside of cerebral imaging). Altogether, this presentation aims at bridging the gap between cerebral imaging and digital phenotyping to enhance personalized medicine in the field of old-age psychiatry and cognitive decline prevention.

Disclosure of Interest: None Declared

S0017

The role of dysregulated ghrelin/LEAP-2 balance in eating disorder: a translational study in anorexia nervosa.

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Abstract: The ghrelin system is a key regulator of appetite and food intake across species. LEAP-2, a recently discovered ghrelin antagonist, appears to be up-regulated in obesity and opposes to the orexigenic drive of ghrelin. The evolution of LEAP-2 levels could be an interesting insight to reflect the regulation of appetite in eating disorders such as anorexia nervosa (AN). We provide the first study exploring the ghrelin and LEAP-2 regulation in long-term food restriction followed by refeeding in both mice and patients suffering from AN.

Using a translational strategy, we compared the regulation of ghrelin and LEAP-2 concentrations in blood during food restriction and after refeeding in female mice exposed to a 14 days protocol combining quantitative food restriction and running wheel activity followed by progressive refeeding. We compared these results to clinical data fom in an ongoing longitudinal study of patients with AN evaluated before and after refeeding as well as 6 months after hospital discharge.

Long-term food restriction in mice was associated with increased ghrelin and decreased LEAP-2 concentrations compared to *ad libitum* fed controls. Refeeding led to an increase in LEAP-2 concentrations. Patients with AN displayed increased ghrelin levels but also higher LEAP-2 concentrations on admission than after refeeding. LEAP-2 decreased with refeeding. On 17 patients re-evaluated 6 months after discharge, patients with unstable weight gain exhibited a greater decrease of LEAP-2 concentrations during refeeding compared to patient with stable weight gain. Decreasing LEAP-2 concentrations was able to predict a negative outcome (i.e. unstable weight gain) in 80% of the cases.

We provide evidence that the ghrelin/LEAP-2 system is not regulated according to the nutritional status in AN as it is in the case of a physiological adaptation to food restriction. Our clinical data suggest that the evolution of LEAP-2 concentrations during refeeding is opposed to data from preclinical model and could give new insights on the outcome of weight gain in AN.

Disclosure of Interest: None Declared

S0018

Clinical correlates of stress, immune and metabolic markers in major depression

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Abstract: The hormonal mediators of the stress response, such as glucocorticoids and catecholamines, have both protective and damaging effects on the body. In the short term, they are essential for adaptation, maintenance of homeostasis, and survival; but chronic exposure to stress or abnormalities in the modulation of the stress response can become maladaptive, leading to a broad range of physical and mental problems.

Allostatic load refers to the activation of physiological regulatory systems in response to stress and "the cost" of the effects of these systems on the body. Results from isolated biomarkers and allostatic load measures based on the stress response system (hypothalamic-pituitary-adrenal axis, autonomic nervous system and immuno-metabolic biomarkers) and its relationships with clinical outcomes, such as cognition, in a clinical sample of major depression patients will be presented. The usefulness and relevance in the clinical practice of those biomarkers and the allostatic load concept will be discussed. The integration of several biomarkers translating the biological and psychological impact of stress on depression development and its clinical trajectories could contribute toward understanding how to prevent and improve outcomes in major depression.

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S0019

Contribution of neuroimaging in late-life depression

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Abstract: Late-life depression (LLD) is currently a hot topic for neuroimaging studies, while an increasing number of imaging modalities are now available for the characterization of brain structure and function. Changes in brain volumes, including