UNIVERSITÀ
DI SIENA
1240

Al collegio docenti del Dottorato in Medicina Molecolare

Dott. Pietro Carmellini

Ciclo XXXVIII Tutor Prof. Andrea Fagiolini

Attività scientifica svolta nel 1°/2° anno di Dottorato, Anno Accademico 2022/2023

- Introduction

My research activity over the past year has primarily focused on investigating mediating factors and possible biomarkers in major depressive disorder evaluating the role of C reactive protein and lifestyle. A quarter of patients with depression show evidence of low-grade inflammation but it is unclear how peripheral CRP levels relate to the heterogeneous clinical phenotypes of the disorder. The peripheral release of pro-inflammatory cytokines drives neuroinflammation which is closely related to anhedonia in MDD. Evidence from RCT, cross-sectional studies and observational studies shows that Mediterranean diet, anti-inflammatory diet and physical activity are associated with a reduction in the risk of developing depression, but the possible relationship between inflammatory biomarkers and lifestyle remains unclear to date. Nevertheless, the involvement of the microbioma-gut axis and the reduction in the peripheral release of pro-inflammatory cytokines appear to play a central role.
The aim of my study is to evaluate the association among healthy or unhealthy lifestyle adherence with inflammatory biomarkers and severity of depression focusing on the dimension of anhedonia, hypothesizing CRP, other pro-inflammatory markers, and an impaired glucose metabolism as mediating factors.

- Materials and Methods

During this first year, we enrolled inpatients diagnosed with either major depressive disorder or bipolar disorder admitted to our unit. We collected biological samples, and performed psychiatric assessment/evaluation.

- Results

I have designed both a cross-sectional study and a naturalistic prospective observational study with at least two timepoints assessment of a sample of bipolar and depressive patients evaluating the trend of CRP levels and possible relationship with the phases of diseases, possible correlation with clinical outcomes and psychometric evaluations and with psychopharmacological therapies. Moreover, we evaluated the association between healthy and unhealthy lifestyle adherence and inflammatory biomarkers and the severity of depression.

UNIVERSITÀ
DI SIENA
1240

• Abstracts e partecipazione a congressi e corsi: autori, titolo della presentazione, nome e date del congresso

- Intravenous valproic acid for the treatment of inpatients with bipolar disorder experiencing manic or depressive episodes with mixed features P. Carmellini, A. Cuomo, A.Goracci, V. Lo Serro, A. Fagiolini (2022). Neuroscience applied Volume 1, supplement 2, 100704
- Intravenous sodium valproate as a promising treatment option for comorbidit aniety in patients with bipolar disorder A. Spiti, A. Cuomo, D. Koukouna, G. Barillà, P. Carmellini, M. Cattolico, A. Goracci, S. Bolognesi, A. Fagiolini (2023). Presented at ECNP congress 2023 P. 0590 (in press in Neuroscience applied)
- European College of Neuropsychopharmacology Congress, Oct. 2023, Vienna
- First International Advanced Clinical Psychopharmacology course, March 2023, Florence
- Psychopharmacology Academy, April 2023, Verona (speaker)
- Psychopharmacology Academy, May 2023, Bologna (speaker)
- Psychopharmacology Academy, May 2023, Bari (speaker)

• Pubblicazioni scientifiche autori, titolo della pubblicazione, nome e numero della rivista, anno di pubblicazione

- Cuomo, A., Carmellini, P., Garo, M. L., Barillà, G., Libri, C., Spiti, A., Goracci, A., Bolognesi, S., & Fagiolini, A. (2022). Effectiveness of light therapy as adjunctive treatment in bipolar depression: A pilot study. Journal of affective disorders, 321, 102–107. Advance online publication. https://doi.org/10.1016/j.jad.2022.10.009
- QTc internal diurnal variations in patients treated with psychotropic medications: implications for the evaluation of drug induced QTc changes. A. Cuomo, C. Libri, G. Barillà, M. Cattolico, P. Carmellini, A. Fagiolini (2022). International Review of Psychiatry, DOI:10.1080/09540261.2022.2135985

• Eventuali soggiorni in altri laboratori italiani o esteri

- Visiting Research Fellow at the Institute of Pyschiatry, Psychology & Neuroscience, King's College University, London (01/09/2022 - 31/03/2023).