

CONNECTOMICS AND PERSONALITY PROFILES IN REFRACTORY MIGRAINE

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Background. Chronic non-responsive migraine (CRM) is a neurological syndrome characterized by headache attacks lasting more than 15 days per month for at least three consecutive months, unresponsive to both traditional and innovative pharmacological treatments (diagnostic criteria of the International Classification of Headache Disorders, ICHD-beta III revision). Although the etiology is multifactorial, psychological factors and personality traits appear to play a crucial role in the chronicity of pain symptoms and are co-responsive to medication failure. This study aims to evaluate the personality profile and morphostructural study of the brain using 3 Tesla brain MRI (connectomics) in a sample of patients with refractory migraine who were unresponsive to both traditional and innovative medications (Botox, Monoclonal Antibodies, and Gepants) on prophylaxis, and to explore their correlation with disease severity.

Methods. Starting from 1 June 2026, patients affected by ECNR will be recruited to participate in a single-centre observational study who attend the Regional Headache Centre A.O. U. R. Dulbecco". Twenty non-responders participating in the study who meet the ICHD-beta diagnostic criteria for ECNR will be recruited; the diagnosis was performed at the Headache Center of our hospital (DH Therapeutic Drug Dependence and Treatment with Monoclonal Antibodies and Gepants). The identified patients will be sent to the neuroimaging unit of the IBSBC-CNR at Mater Domini in Catanzaro for a 3Tesla MRI examination. They will undergo a psychodiagnostic assessment of personality traits using validated psychometric tools (MMPI-2, PID-5). In addition, 20 healthy patients will be recruited who will undergo brain MRI and psychological testing for a case-control comparison.

Results. The sample analysis will assess the significant prevalence of specific personality traits, with particularly high scores in some dimensions and a correlation with the connectome characteristics of the reward system areas of ECNR patients. with a group of 20 healthy subjects.

Conclusions. The results suggest that specific personality profiles not only coexist with refractory migraine but can negatively influence clinical outcome and response to pharmacological treatments. Identifying these characteristics early would allow us to move beyond the traditional, purely biomedical approach, supporting the integration of psychotherapy pathways to improve the clinical outcome of these complex patients. Furthermore, the connectomic study will provide us with potential indications of reward system dysfunction.