Neurobiological aspects of personality

Catarina Freitas¹, Denis Gabriel², João Chaves², and Sandra Queirós¹


Abstract

Introduction: Personality is an individual characteristic, result of the interaction of biological, psychological and social factors. In some circumstances during adulthood, it may occur deep and lasting personality changes, which may result from injury or organic brain disease, various psychiatric disorders or exceptionally severe stressful experience. The change most commonly perceived and reported by family members of patients with brain injury is the change in personality. The neurobiological aspects of personality have been subject of intense discussion, over time, in order to try to associate certain personality traits with areas and brain circuits, including, for example, studies with imaging exams.

Objectives and Methods: The authors propose to describe two cases of patients with lesions in the prefrontal cortex, trying to associate such lesions to characteristic personality traits of orbitofrontal dorsolateral syndromes.

Results: The frontal syndromes are associated with personality change, cognitive impairment, difficulties in interpersonal relations and social behavior and other neurological disorders.

Discussion and Conclusions: With the growing scientific advances and the high demand for neurological explanation for the personality, the question remains whether the personality changes are direct consequence of brain injury or due to other different processes such as the emotional reaction to the neurological damage.