Introduction

Neuroscientific Approach to Emotions and Feelings: The Last Frontier of the New Millennium

By Donatella Marazziti, MD

For centuries, emotions and feelings have been considered a domain of poets, writers, novelists, or psychologists who have tried to explore their secretive natures. They have been debating the crucial question of what they are, without providing any exhaustive answer except magnificent descriptions of them or sophisticated psychodynamic interpretations.

However, the explosion of neuroscience that has occurred in the last decades has provoked a real revolution and reshaping of previous knowledge. In addition, the increasing amount of data that are accumulating permits nowadays a detailed description, in molecular terms, of some brain processes in both physiological and pathological conditions. We do not know as yet how the brain produces the mind, but we cannot disregard anymore that the mind is a product of the brain.

Following this line of thought, emotions and feelings, such as attachment, pair and parental bonding, boredom, shyness and even love, typical of higher mammals and neglected for centuries by experimental sciences, have become the topic of extensive neuroscientific research in order to elucidate their biological mechanisms. This is in spite of the fact that there exist as yet concrete problems for research in this field. First, scientific methods often appear inappropriate to explore the personal characteristics of emotions that always show peculiarities linked to the particular individual,1 and no standardized method is adequate to cover the range of the multiple expressions of them. Secondly, some feelings, such as love, seem to have no correspondent models in animals that are of valuable help in several cases. Because of these biases, perhaps, research in this area has been mainly neglected; however, we cannot disregard also the skepticism and the meager interest in investigating “feelings” rather than “real disorders.” For a long time, in fact, feelings have not been considered worthy enough as topics of experimental science and, therefore, their intimate nature has never been investigated rigorously. However, we are of the opinion that it is now time to move ahead. We can easily predict that in the future we shall be able to unravel how the brain functions and dysfunctions and how emotions and feelings emerge from its activity, without disregarding the role of cultural and enviromental factors that probably are more involved in shaping rather than in determining them.

This issue of CNS Spectrums aims to present an overview of the latest research on the psychobiological mechanisms regulating some emotions and feelings. Domenico Canele, MD, and Stefanie Pistoia, MD, write about the neuroendocrine control of libido, a drive which is essential for the species survival. Boredom is the topic of Carlo Maggini’s, MD, paper, which presents the current hypotheses on the pathophysiology of this feeling, while Stefano Pallanti, MD, and Leonardo Quercioli, MD, present an extensive review on shame from physiology to pathology. The paper of Silvana Galderisi, MD, PhD, and Armida Mucci, MD, PhD, is focused on emotional reactivity and on how it can be linked to vulnerability towards psychopathology.

Obviously, the topics are limited due to the physical constraints of the journal, but we want to stress the need for further reflection and research in this area that, according to us, represents the real challenge for neuroscience in the third millennium. In addition, we strongly believe that the identification of the neural substrates of human feelings and emotions might represent the glue to reconcile psychology and psychiatry, both with the same basis in the human brain.

REFERENCES


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The most frequent adverse events reported with CELEXA vs placebo in clinical trials were nausea (21% vs 14%), dry mouth (20% vs 14%), somnolence (18% vs 10%), insomnia (15% vs 14%), increased sweating (11% vs 9%), tremor (8% vs 6%), diarrhea (8% vs 5%), and ejaculation disorder (6% vs 1%). CELEXA is contraindicated in patients taking monoamine oxidase inhibitors (MAOIs) or in patients with a hypersensitivity to citalopram HBr or any of the ingredients in CELEXA. CELEXA therapy was associated with a mean weight increase of only 1.5 kg after 12 months. 20 mg/day is the recommended dose for most elderly patients and patients with hepatic impairment, with titration to 40 mg/day only for nonresponding patients.

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Several doses of imipramine and clomipramine impair psychomotor performance and intellectual functioning; however, a long-term study in depressed patients taking Celexa is not recommended. Monoamine Oxidase Inhibitors (MAOIs) should not be used concomitantly with Celexa; there is a risk of serotonin syndrome. When switching from MAOIs to Celexa, 14 days should elapse.

CONTRIBUTIONS OF DRUG AND NONDRUG FACTORS TO THE ADVERSE EVENT INCIDENCE RATE IN THE CLINICAL TRIALS

Results of the clinical trials suggest that Celexa is well tolerated. The most common adverse events were somnolence, increased appetite, and sexual dysfunction.

In the controlled clinical trial program, adverse events occurring at rates greater than 5% in patients treated with Celexa and placebo are listed in Table 3. These adverse events are also included in the overall adverse events listed in Table 1.

Celexa is contraindicated in patients with a history of mania. Celexa should be used cautiously in patients with a history of convulsant effects of citalopram observed in animal studies, Celexa has not been evaluated in patients with convulsant effects. Convulsant effects of citalopram have been observed in animal studies, and Celexa has not been evaluated in patients with convulsant effects.

Concomitant use in patients taking monoamine oxidase inhibitors (MAOIs) is contraindicated. Patients taking MAOIs should discontinue Celexa at least 14 days before starting an MAO.

In clinical trials, Celexa has been used concomitantly with the following drugs: lithium, amitriptyline, biperiden, chlorpromazine, diazepam, digitoxin, diltiazem, diphenhydramine, doxepin, flutamide, fluoxetine, imipramine, lorazepam, metoclopramide, midazolam, nortriptyline, propranolol, quinidine, ranitidine, sertraline, theophylline, trihexyphenidyl, Warfarin, and Zolpidem. No serious interactions have been observed in patients treated with these drugs and Celexa.

Adverse events occurring in 5% or more of patients treated with Celexa and placebo are listed in Table 3. These adverse events are also included in the overall adverse events listed in Table 1.

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