Controversies in psychiatry

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Abstract

Neuroimaging and recent genetics discoveries have raised many questions regarding the current diagnostic criteria of psychiatric diseases and the current classifications used, which are still based on subjective clinical assessment. Despite high-quality research in brain neuroscience and evidence-based guidelines in many psychiatric diseases, some therapeutic issues are still a matter of debate. These controversial issues will be discussed in this 20th anniversary *issue.*

Keywords: *biomarker; controversy; genetics; psychiatry; precision medicine*

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For the last 20 years, the journal *Dialogues in Clinical Neuroscience* has devoted each issue to a specific topic using review articles that introduce, in a highly integrated manner, basic neuroscience to the dilemmas faced by clinicians in everyday practice. The journal celebrates its 20th year of publication with this special issue on controversies in psychiatry.

At the turn of the 19th century, the science of psychiatry really began to develop, and the way that society treated the mentally ill gradually changed. Outstanding clinical descriptions of mental diseases were published by German and French (neuro)psychiatrists such as Griesinger and Charcot. Medical doctors and scientists began to understand how the brain works, and thus started the slow progress of mental health treatment. However, the first major breakthrough in the development of effective psychiatric drugs came out in the 1950s by serendipity. Yet, the introduction of effective antipsychotics for schizophrenia and mania, and antidepressants for depressive disorders, revolutionized the care of mentally ill patients and their outcome; many patients were finally able to live outside of the mental hospitals. From these discoveries, substantial progress was made in the understanding of the biological basis of psychosis and depressive disorders. However, the lack of specificity of these medications revealed a certain degree of overlap among clinical classifications of these illnesses. Furthermore the discoveries in the neuroimaging and genetics fields added an additional degree of confusion. In fact, common genes were identified between schizophrenia, autism, bipolar disorders, and intellectual disability. A whole neurodevelopmental spectrum of disorders was thus able to be identified. Altogether, these observations raised many questions regarding the current diagnostic criteria of psychiatric diseases and the current classifications used which are still based on subjective clinical assessment[1,2] (Carvajal, in this issue p 161; Crocq, in this issue p 155).

In contrast to many somatic diseases which already have implemented biomarkers, in psychiatry, we continue to build on subjective clinical assessment of clinical symptoms and syndromes. We need to develop biomarkers that can be measured objectively and evaluated as indicators of normal or pathological processes with a high level of sensitivity and specificity[3-6] (Hoehe and Morris-Rosendhal, in this issue p 169). These biomarkers should also be easy to use and consistent across studies. They could be used for both early and differential diagnosis, personalized prediction of treatment response, and/or side effects. In precision or personalized medicine, the focus is on identifying which approaches will be effective for which patients based on genetic, environmental, and lifestyle factors. Noninvasive neuroimaging is a key area for biomarker development because it connects behavioral outcomes with structural, functional, and molecular mechanisms[7] (Falkai et al, in this issue, p 179). Pharmacogenomics combines pharmacology and genomics to develop effective, safe medications and doses that are tailored to variations in a person's genetic background (Hoehe and Morris-Rosendhal, in this issue p 169). Furthermore, integrating genomics, epigenomics, transcriptomics, proteomics, and metabolomics combined with neuroimaging may contribute to the identification of the pathways contributing to mental disorders, enabling a precision medicine approach to the treatment of individual patients.[7,8] However, despite high-quality research in brain neuroscience and evidence-based guidelines in many psychiatric diseases, nonconventional approaches remain in the present practice of psychiatry and will be discussed in this issue (Schulz and Hede, in this issue, p 207). Finally, therapeutic issues regarding the use of antidepressants in minor depression or the length of main-

tenance antipsychotic treatment in schizophrenia remain a matter of discussion (Naber and Bullinger, in this issue, p 223; Davidson, in this issue, p 215). ❑

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