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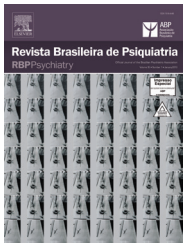

Letter to the Editors

Was Meduna's theory really wrong?

To the Editors

Few treatments in psychiatry were discovered and developed based on a previously developed theory. The therapeutic effects of the first antidepressant and antipsychotic drugs, for example, were serendipitously observed before a theory on how they work was described. By contrast, convulsive therapy was developed in Budapest by Dr. Lazlo Meduna based on facts that led him to foresee its possible clinical utility. His experience and interest in microscopically studying glial cells and his clinical psychiatric experience led him to describe a reduction in glial density in the brains of patients with schizophrenia and a rise of glial cells in the brains of patients with epilepsy. Other ideas were later added to this initial insight. However, this glial reduction was never confirmed in the brains of patients with schizophrenia.[1] The theory was abandoned; however, the treatment has continued in its electric version.

The original medical notes of most of Meduna's first patients were recently recovered, and most of the patients (23 out of 26) were re-diagnosed using ICD-10 criteria.[2] All of the patients were male, as he worked in the male ward. According to the new criteria, in addition to three patients with "pure" schizophrenia, the sample included individuals with catatonic schizophrenia (n = 13), schizoaffective (n = 2), bipolar manic (n = 1), bipolar mixed (n = 2), acute and transient psychotic (n = 1) and psychotic depressive (n = 1) disorders. The remission rates were 27% for schizophrenia and 83% for affective disorders. Some of the re-diagnoses as catatonic schizophrenia could be of affective origin, as catatonia is now widely recognized as a syndrome and affective disorders are a common etiology.[3] Re-diagnosing catatonic schizophrenics as bipolar could explain Meduna's impressive remission rates and confirm the best indication for treatment. On the other hand, recent findings implicate glial reduction as the most prominent feature in the histopathology of major depression and bipolar disorder.[4] Glial reductions were found in fronto-limbic brain regions, such as the subgenual and supragenual regions of the anterior cingulate cortex, and in the dorsolateral prefrontal cortex and orbitofrontal cortex. An excess of glucocorticoids and deficiencies in neurotrophic and angiogenic factors are the most plausible explanations for this reduction.[5] Unfortunately, we do not have access to the brain slices or the clinical records that led Meduna to develop convulsive therapy. Could it be that some of Meduna's first brain slices with schizophrenia belonged to individuals with misdiagnosed affective disorders with glial reduction? We may never know, but the use of broader diagnostic criteria could explain the first findings that led to the development of convulsive therapy. The theory may not have been wrong after all.

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Disclosures

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** Modest*

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References

1. Schnieder TP, Dwork AJ. Searching for neuropathology: gliosis in schizophrenia. Biol Psychiatry. 2011;69(2):134-9.
2. Baran B, Bitter I, Ungvari GS, Gazdag G. The birth of convulsive therapy revisited: a reappraisal of Laszlo Meduna's first cohort of patients. J Affect Disord. 2012;136(3):1179-82.
3. Heckers S, Tandon R, Bustillo J. Catatonia in the DSM--shall we move or not? Schizophr Bull. 2010;36(2):205-7.
4. Rajkowska G, Miguel-Hidalgo JJ. Gliogenesis and glial pathology in depression. CNS Neurol Disord Drug Targets. 2007;6(3):219-33.
5. Rajkowska G, Miguel-Hidalgo JJ, Wei J, Dilley G, Pittman SD, Meltzer HY, et al. Morphometric evidence for neuronal and glial prefrontal cell pathology in major depression. Biol Psychiatry. 1999;45(9):1085-98.

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