

Cambridge University Press

978-1-108-42404-2 — Textbook of Immunopsychiatry

Edited by Golam Khandaker , Neil Harrison , Edward Bullmore , Robert Dantzer

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Immunopsychiatry

An Introduction

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Foreword

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The *Textbook of Immunopsychiatry* is very timely. The field of psychiatry is surely the most rapidly evolving of all areas of medicine. The very notion of a biology of psychiatric disorder is a relatively recent concept. As our understanding of the biology of psychiatric disorders advanced, the complexity of the phenomena that we were studying similarly increased. The initial psychiatric focus on monoamines led to an appreciation of the profusion of neural signaling mechanisms. An initial focus on the interplay of neuronal types led to the understanding of the role of astroglia and oligodendrocytes in neural signaling. The emergence of immunopsychiatry represents an extradimensional shift in our thinking about the brain and its relationship with the rest of the body. Rather than viewing the brain as distinct from the body, immunopsychiatry highlights the fundamental importance of immunoregulation of brain function and, likewise, the role of the brain in regulating peripheral immune processes.

The scope of immunopsychiatry is both broad and deep. In reviewing this book, I was reminded of a quote from George Engel from the 1950's, "we repeatedly affirm our belief that all diseases are "psycho-somatic," in the sense that psychological processes are always involved [1]." Similarly, the *Textbook of Immunopsychiatry* makes the case that most aspects of brain function and psychiatric pathophysiology have an immunologic component. This view has profound implications. First, immunologic mechanisms are implicated increasingly in specific ways in the neurodevelopmental emergence of psychiatric pathophysiology. This view is exemplified by the implication of activated microglia in the enhanced synaptic elimination associated with the development of schizophrenia [2]. Second, the brain is affected in profound ways by inflammatory processes that affect the entire body, even when the brain's inflammatory response opposes the changes in the periphery [3]. Thus, psychological and cognitive symptoms may predict medical outcomes, like heart disease, because of their organ-specific responses to common inflammatory processes. Further, the first two points imply that a deep understanding of neuroimmunology could inform the development of immunosuppressant treatments or prevention strategies; particularly within a precision medicine framework. Third, as elegantly reviewed in this book, the brain is affecting the peripheral immune processes.

One unanticipated consequence of the emergence of immunopsychiatry is that it has built new collaborative bridges between psychiatry and other areas of medicine. We are now studying common pathophysiologic mechanisms with our colleagues in cardiology, rheumatology, neurology, and other areas of medicine. This shared platform enabled us, as a field, to contribute to studying neural, psychosocial and other medical outcomes during the COVID pandemic.

I think the *Textbook of Immunopsychiatry* is a wonderful way to learn about this important and rapidly emerging area. Its fifteen chapters provide a historical context and then build a framework for understanding the complex interplay of brain and immune function, setting the stage for understanding neuroimmune illnesses and treatments.

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2. Sekar, A., et al., *Schizophrenia risk from complex variation of complement component 4*. *Nature*, 2016. **530**(7589): p. 177–83.
3. Bhatt, S., et al., *PTSD is associated with neuroimmune suppression: evidence from PET imaging and postmortem transcriptomic studies*. *Nat Commun*, 2020. **11**(1): p. 2360.

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