The Behavioral and Cognitive Neurology of Stroke
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Edited by

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Cambridge University Press
978-1-107-01557-9 - The Behavioral and Cognitive Neurology of Stroke
Edited by Olivier Godefroy
Frontmatter
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The care of stroke patients has dramatically changed over recent years with the advent of stroke units, thrombolysis, standardized management procedures, and the development of secondary prevention. Following the acute phase, the battle to maintain autonomy is also evolving, with the development of specialized rehabilitation units, treatment of dementia, and new hopes for the future such as pharmacotherapy, regenerative therapy, or transcranial stimulation. These advances highlight the need for accurate determination of pre-stroke status, stroke diagnosis, and complications at both the acute and late phases. This is a vast domain in view of the extraordinary complexity of the brain and the multiple mechanisms involved in stroke. This domain is also rapidly evolving owing to the major advances in neurosciences and neuropsychology.

For the clinician, the development of cognitive and clinical neurosciences has shed light on the diagnosis; assessment and prognostic value of pre-stroke status, stroke signs, and residual signs; and their treatments. The objectives of cognitive examination differ according to the phase. At the hyperacute phase, cognitive examination is systematically performed for diagnostic purposes and to determine pre-stroke cognitive status, which markedly influences outcome. Following the hyperacute phase, the identification of complications and their significance, the recognition of persistent signs, and the determination of appropriate care are essential and this covers a very wide range of cognitive and behavioral changes. After the acute phase, it is essential to identify residual signs and sequelae, including post-stroke dementia and complications that appear in the long term. In neurology clinics and general wards, cerebrovascular disorders also frequently present as primary behavioral or cognitive disorders. They remain underdiagnosed, justifying a better knowledge and systematic assessment of vascular brain damage in these patients. These major objectives have led to the promotion of standardized assessment and management for vascular cognitive impairment.

At the same time, neuropsychology and cognitive neurosciences are developing at a tremendous rate with the use of various methods that now extend well beyond the simple study of brain damage in patients. The objective of this book is to fill the gap between clinical and cognitive neurosciences in the field of stroke. For this purpose, it, therefore, provides basic information on the main brain functions (perception, motor, behavior, and cognition) and brain disorders in the light of recent developments from basic neurosciences. It continues to provide a comprehensive review of the specificity of the disorders observed in stroke patients (including the hyperacute phase), their relationships with stroke mechanisms, and their assessment (including validated tests) and management.

The goal of this book is to provide valuable information for all clinicians involved in the care of stroke patients – in stroke units, neurology departments, and rehabilitation departments – and all clinicians involved with patients with behavioral and cognitive impairment, particularly in memory clinics. It is also intended to be useful for neuroscientists and neuropsychologists and to encourage further research in the field of cognitive neurosciences in stroke.