

TIA as Acute Cerebrovascular Syndrome

Frontiers of Neurology and Neuroscience

Vol. 33

Series Editor

J. Bogousslavsky Montreux

TIA as Acute Cerebrovascular Syndrome

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25 figures, 7 in color and 14 tables, 2014

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Beijing · Tokyo · Kuala Lumpur · Singapore · Sydney

Frontiers of Neurology and Neuroscience

Vols. 1–18 were published as Monographs in Clinical Neuroscience

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Library of Congress Cataloging-in-Publication Data

TIA as acute cerebrovascular syndrome / volume editors, S. Uchiyama, P.
Amarengo, K. Minematsu, K.S.L. Wong.

p. ; cm. -- (Frontiers of neurology and neuroscience, ISSN 1660-4431
; Vol. 33)

Includes bibliographical references and index.

ISBN 978-3-318-02458-6 (hard cover : alk. paper) -- ISBN 978-3-318-02459-3
(electronic version)

I. Uchiyama, Shin'ichiro, editor of compilation. II. Amarengo, Pierre,
editor of compilation. III. Minematsu, Kazuo, editor of compilation. IV.
Wong, K. S. Lawrence, editor of compilation. V. Series: Frontiers of
neurology and neuroscience ; v. 33. 1660-4431

[DNLM: 1. Ischemic Attack, Transient--therapy. W1 MO568C v.33 2014 / WL
356]

RC388.5
616.8'1--dc23

2013031979

Bibliographic Indices. This publication is listed in bibliographic services, including Current Contents® and Index Medicus.

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© Copyright 2014 by S. Karger AG, P.O. Box, CH-4009 Basel (Switzerland)
www.karger.com

Printed in Germany on acid-free and non-aging paper (ISO 97069) by Kraft Druck, Ettlingen

ISSN 1660-4431

e-ISSN 1662-2804

ISBN 978-3-318-02458-6

e-ISBN 978-3-318-02459-3

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Preface

Transient ischemic attack (TIA) is well known to be a prodromal syndrome of ischemic stroke. However, TIA is easily neglected or underestimated by patients or their families because the symptoms naturally disappear without any treatment. Even by general physicians, TIA is not prioritized since it is regarded as minor stroke. However, early after the onset of TIA, patients are at very high risk of stroke.

There is no global consensus on the definition of TIA. In the classical criteria, TIA is defined as focal neurologic brain or retinal ischemic symptoms which disappear within 24 h. However, the TIA Working Group in the United States defined TIA as brain or retinal ischemic symptoms within 1 h of the duration without responsible ischemic lesions. Afterwards, the American Heart Association and the American Stroke Association redefined TIA as transient focal ischemic symptoms in the brain, retina, or spinal cord without evidence of ischemic lesion regardless of the duration of symptoms.

On the other hand, the distribution of the duration of TIA with positive MRI diffusion-weighted image is continuous without any specific cutoff point. Thus, it is not possible to differentiate TIA from ischemic stroke only by the duration of symptoms. Therefore, there would be no meaning in differentiating TIA from acute ischemic stroke (AIS) by the duration of symptoms in acute settings. Rather, TIA and AIS should be recognized on the same spectrum of acute ischemic syndrome in the central nervous system.

In the Steering Committee of TIAregistry.org, which is an investigator-driven, international, multicenter cooperative, observational study of TIA and minor AIS, we proposed a new concept termed acute cerebrovascular syndrome (ACVS), which includes TIA in acute settings and AIS. The concept of ACVS is comparable to acute coronary syndrome (ACS), which includes unstable angina and acute myocardial infarction. However, unlike ACS, the mechanism of ACVS is complicated, including not only large artery atherosclerosis similar to ACS but also cardioembolism or small vessel occlusion. In addition, there are no measurable biomarkers for ACVS such as troponins for ACS. Nevertheless, the concept of ACVS is practical to emphasize the importance of immediate evaluation and starting treatment to prevent subsequent stroke in patients with acute settings of TIA. Therefore, TIA

in acute settings as well as AIS should be recognized as ACVS, which is a medical emergency.

In patients with TIA in acute settings, after immediate examination, antithrombotic therapy as well as risk factor management with antihypertensives, statins, and glucose-lowering drugs are promptly required. As to antithrombotic therapy, dual antiplatelet therapy may be effective to prevent early stroke recurrence in patients with non-cardioembolic TIA for aggressive inhibition of platelet activation, while novel oral anticoagulants for rapid inhibition of coagulation activation may be useful for preventing early stroke recurrence in patients with cardioembolic TIA due to atrial fibrillation. In patients with severe arterial stenosis and resistant to medical treatment, surgical or intravascular intervention with carotid endarterectomy or carotid artery stenting as an emergency procedure may be necessitated.

TIA clinics may be very useful for immediate evaluation and management of acute TIA patients. They accept TIA patients 24 h a day, 365 days a year. In reality, TIA clinic was reported to be very effective in reducing risk of stroke during 90 days after TIA. The report showed that this effect was brought about by early starting of dual antiplatelet therapy, statin use, and single or dual antihypertensive treatment.

In the field of cardiology, the terminology of ACS including unstable angina and acute myocardial infarction was used for the campaign to save lives from cardiac death, which was very successful for reducing the overall death rate. In the field of neurology, terminology of ACVS is expected to be helpful in remarkably reducing early subsequent risk of stroke, which is the leading cause of death and disability worldwide.

This book covers all topics of TIA as ACVS including the definition, concept, etiology, epidemiology, symptomatology, risk scores, neuroimaging, neurosonology, acute management, primary and secondary prevention, and guidelines. The authors of the excellent updated reviews in the respective chapters are all top opinion experts in stroke neurology. We hope many readers worldwide will find this book useful for clinical practice and research.

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