therapy and drug reactions, the reader is urged to check the package insert for each
drug for any change in indications and dosage and for added warnings and precautions.
This is particularly important when the recommended agent is a new and/or
infrequently employed drug.

All rights reserved.
No part of this publication may be translated into other languages, reproduced or
utilized in any form or by any means, electronic or mechanical, including photocopying,
recording, microcopying, or by any information storage and retrieval
system, without permission in writing from the publisher.

Copyright 1983 by S. Karger AG, P.O. Box, CH-4009 Basel (Switzerland)
Printed in Switzerland by Tanner & Bosshardt AG, Basel
ISBN 3-8055-3706-9

Contents

Acknowledgements ................................................. VI
Morozov, P. V. (Geneva): Preface ..................................... VII
Baker, H.F.; Bloxham, c.; Crow, T.J.; Davies, H.; Ferrier, I.N.; Johnstone, E.C.;
Parry, R.P.; Ridley, R.M.; Taylor, G.R.; Tyrrell, D.A.J. (Harrow): The Viral
Hypothesis of Schizophrenia: Some Experimental Approaches ........... 1
Studies.............................................................. 20
Hare, E.H. (Beckenham): Epidemiological Evidence for a Viral Factor in the
Aetiology of the Functional Psychoses. .................................................. 52
Stevens, J.R.; Albrecht, P.; Godfrey, L.; Krauthammer, E. (Washington, D.C./Bethesda,
Md./Portland, Oreg.): Viral Antigen in the Brain of Schizophrenic
Patients? A Preliminary Report ........................................... 76
Lycke, E. (Goteborg); Ziegler, R. (Duluth, Minn.): Herpes simplex Virus - Neuronal
Cell Interactions ......................................................... 97
Pogady, J.; Kocis, L. (Pezinok): Theory of Microstructure in a Hypothetical Viral
Etiology of Functional Psychoses ............................................... 112
Shaskan, E.G.; Ballow, M.; Oreland, L.; Wadell, G. (Farmington, Conn./Ume):
Is there Functional Significance for Dopamine Antagonist Binding Sites on
Lymphoid Cells? .......................................................... 123
Kolyaskina, G.I. (Moscow): Blood Lymphocytes in Schizophrenia - Immunological
and Virological Aspects ..................................................... 142
Fuller Torrey, E.; Yolken, R.H.; Albrecht, P. (Washington, D.C./Baltimore, Md./Bethesda,
Md.): Cytomegalovirus as a Possible Etiological Agent in Schizophrenia
..................................................................................... 150
Rimon, R.H. (Helsinki); Halonen, P. (Turku); Lebon, P. (Paris); Heikkil, L.
As early as in the 19th century, some conjectures were expressed about the possible role of infection in the origins of mental disorders. Mainly in connexion with research in the aetiology of what used to be called 'dementia praecox', a variety of infectious agents have been suspected to have some links to the aetiology of psychiatric illnesses. Typhus and typhoid fevers, influenza and malaria, cholera and tuberculosis, meningitis and epidemic encephalities, all of them capable of provoking a schizophrenia-like syndrome have been implicated in the causation of mental disorders. However, these numerous attempts only confirmed the words of Pavlov who said that 'aetiology is the weakest area of medicine'.

An hypothesis of a viral aetiology in schizophrenia was first formulated
in more specific terms only in 1948. Later, the author of this theory, Malis [1959], who regarded schizophrenia not as an encephalitis, but as a chronic somatic illness which is caused by viral agents and leads to a specific toxic involvement of the brain, summarized the results of his study in a monograph. Immunological and virological investigation methods were used for the first time for the purpose of searching for a viral causal agent in schizophrenia. Presence of virus-like particles in the CSF and nasal secretion of schizophrenic patients was established in 1954 by M.A. Morozov and V.M. Morozov with virusoscopic methods. Since 1956, several researchers have tried to culture in chicken embryos virus-like particles obtained from CSF of schizophrenic patients.

So during the 1950s, investigations carried out in various countries, created a background for that part of biological psychiatry which encompasses virological, immunological and psychiatric methods of research and is now provisionally called 'psychovirology'. But the level of the development of research methods at that time did not allow researchers to continue their investigations. It was only in the 1970s that a number of scientists in different countries of the world turned again to the problem of the relationship between virus infection and the aetiology of functional psychoses.

The interest in this problem has increased because of the progress achieved in clinical virology and discovery of slow virus infection; the success of pathomorphology which demonstrated encephalitis-like changes in the brain of some schizophrenic patients who died from other causes; the collections and analysis of new epidemiological data and, in particular, the findings about seasonality in the births of schizophrenic patients. It is important to stress that at that time, a number of small, but stable research teams formed, which brought together psychiatrists and virologists.

At this current stage of the development of psychovirology, the World Health Organization expressed its interest in this new field of biological psychiatry.

One of the most important tasks of the medium-term mental health programme of the WHO is the prevention and control of mental and neurological disorders. Nearly 40 million people around the world are suffering from these illnesses and over 200 million people can be considered as high risk groups. An important factor in the efforts to reduce this number is the biological approach to prevention and to the search for aetiological factors. Because of this, WHO fully supports research efforts in this very important area of biological psychiatry. Since 1980, WHO has strengthened its role in the exchange of information in this field and direct links have
been established between many investigators and WHO. A logical continuation of this preliminary phase was the initiative to organize the first international symposium on the possible involvement of viral infection in the aetiology of psychiatric disorders (Stockholm, 1981). The participants included psychiatrists, virologists, neurologists and immunologists, specialists in histopathology, psychiatric epidemiology, genetics and psychopharmacology. The coordination of the efforts of these researchers working in different areas of medicine and biology and carrying out investigations in different parts of the world was one of the tasks of this meeting. It is hoped that this publication will be another step towards the delineation of psychovirology as a special area of biological psychiatry which is likely to be characterised by an intensive international collaboration. WHO will continue to play its coordinating role, especially in the development of the exchange of scientific information. The organization of the international symposium on 'Research on the Viral Hypothesis of the Aetiology of Mental Disorders' is an expression of this interest and determination.

References and Suggested Readings


P.V. Morozov, Senior Medical Officer, Division of Mental Health, World Health Organization, Avenue Appia 27, CH-1211 Geneva (Switzerland)