Contents

Clinical Classification and Manifestations of Stroke ............... 1
Julien Bogousslavsky

Pathophysiology of Ischemic Stroke ............................... 15
K.-A. Hossmann

Risk Factors for Stroke ........................................ 31
Philip A. Wolf

Diagnostic Procedures for the Selection of Patients
at Risk for Stroke ............................................. 39
Michael Hennerici

Lipids in the Prevention of Stroke ............................. 45
Gayle Crozier and Marco Turini

Dietetic Prevention of Arteriosclerosis ....................... 57
Anselm W. Kornhuber

Antioxidants and Atherosclerosis ........................... 75
Hannes B. Stähelin

The Stroke-Prone Spontaneously Hypertensive Rat and its Role in
the Genetic Dissection of Cardiovascular Disease ............... 87
Norbert Hübner, Young-Ae Lee, Reiner Kreutz, Klaus Lindpaintner,
and Detlev Ganten

Hypertension and Sodium Intake ................................ 101
Diederick E. Grobbee

Genetic Variation of Sodium Sensitivity ....................... 109
Yukio Yamori, Yasuo Nara, Katsumi Ikeda, Shunsako Mizushima,
Chiho Matsumoto, Tomoji Mashimo, Tomoko Tamada,
Jacob P. Mtabaji, Emilio Moriguchi, and Yukio Moriguchi
Therapeutic Approaches to the Treatment of Acute Ischemic Stroke ...................................................... 119
Myron D. Ginsberg

Potassium and Calcium Intake in Stroke Prevention: A Role for the Food Industry in the Prevention of Cerebrovascular and Cardiovascular Diseases. ........................................ 129
Kurt Ornstein

Antioxidants in Ischemic Stroke ........................................ 145
Armand Malnoë

Nutrition Support in the Stroke Patient .............................. 159
Axel G. Feller, Manuel E. Alva, and Stuart P. Richer

Conclusion ................................................................. 171

Subject Index ......................................................... 173
Preface

After coronary heart disease and cancer, strokes are the most frequent cause of death in industrialized countries. The United States alone has about half a million cases of stroke per year, 30% of them being fatal in 1991. In 1994, 30 billion US dollars were spent on treatment during the acute phase and on management during the chronic state in the USA alone (1). We could speculate from WHO data (2) that the financial burden per inhabitant, or as a percentage of GNP, is as high in the other industrialized countries. Since efficacy of treatment for stroke itself is, up to now, quite limited, it is important to use to the greatest extent all of the possibilities offered by prevention: this is for the large part still nutritional, as suggested by changes in mortality induced by change of the environment of peoples of the same ethnic origin (3). This is why we have chosen the topic of Nutrition and Stroke for the joint Meeting between the ‘‘Deutsche Schlaganfallstiftung’’ (a German institution for the prevention of stroke), sponsored by the Bertelsmann Foundation, and the Nestlé Research Center which specializes in nutrition research.

There are basically two kinds of stroke with uneven distribution according to diets: ischemic stroke which shares with coronary heart disease the same type of dietary features: excessive energy intake leading to obesity (4), excessive saturated fat intake (5) and excessive salt intake favoring high blood pressure (6), although high blood pressure also plays a very important role in the second type of stroke which is hemorrhagic. Besides hypertension, there is the possibility that certain diets rich in n-3 long chain polyunsaturated fatty acids, useful through their inhibition of platelet aggregation for the prevention of ischemic stroke, could increase the risk of hemorrhagic stroke as observed in Eskimos.

All of these aspects have been extensively discussed during the Workshop, as well as the role of antioxidants, which is for the time being still not unequivocally proved.

We hope that reading the articles and the subsequent discussions will give food for thought and promote both new research and some kind of palliative therapeutic measures, as well as possible preventive nutritional strategies which may help to reduce the large amount of pain and cost of stroke in our society.

PIERRE GUESRY, M.D.
Vice-President of Research
Nestlé Research Center, Lausanne, Switzerland
REFERENCES