Knowledge of stroke risk and prevention continues to grow with recent advances in risk factor identification and results of clinical trials of new cardiovascular risk factor prevention strategies. Currently, we are well positioned to enhance stroke risk determination and prevention efforts through opportunities to create global chronic disease healthcare networks with stroke as a major component, linkage of diverse planning and prevention systems by sophisticated internet platforms and software, and use of traditional and newer media strategies (eg, social marketing) to communicate public health messages. Improved implementation of innovative approaches to alter lifestyle and evidence-based approaches for the treatment of modifiable risk factors are needed to reduce the future global stroke burden.

In this session of the 27th Princeton Conference, we highlight advances in stroke risk identification and prevention that may shape future directions in research and patient care. Four themes are emphasized: (1) inflammatory mechanisms including chronic infections as determinants of stroke (Mitchell S. V. Elkind, MD, MS); (2) emerging risk factors for ischemic stroke in women (Kathryn Rexrode, MD, MRH); (3) prediction of stroke risk using advanced carotid imaging (Bruce Wasserman, MD); and (4) new pharmacological approaches for stroke prevention due to atrial fibrillation (Michael Ezekowitz, MD, PhD). Dr Elkind reviews the evidence for inflammatory mechanisms in stroke based on large-scale epidemiological studies such as the Northern Manhattan Study and the Cardiovascular Health Study and places emphasis on inflammatory markers and an overall infectious burden risk score. Dr Rexrode discusses the role of possible novel risk factors for stroke in women such as hepatocyte growth factor, endogenous estradiol, and depression. Dr Wasserman calls to our attention the possible role of advanced carotid imaging techniques, which may identify vessel wall neovascularity and intraplaque hemorrhage for prediction of stroke risk beyond that of luminal stenosis in subjects with asymptomatic carotid disease. Finally, Dr Ezekowitz reviews the latest advances in antithrombotic therapy for prevention of stroke in atrial fibrillation. Here, the thrust is the future application of the class of direct thrombin inhibitors and factor X inhibitors that are not yet Food and Drug Administration-approved. The future of stroke risk elucidation and prevention likely will be influenced by these topical advances that are discussed in the ensuing section.

Disclosures

P.B.G. receives honoraria as a consultant to and speaker’s bureau member for Boehringer Ingelheim. R.L.S. has been the lead investigator for the NINDS/NIH-funded Northern Manhattan Stroke Study.

References


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