Introduction

Current concepts in epilepsy surgery

ROBERT G. GROSSMAN, M.D.,1 CHARLES Y. L IU, M.D., PH.D.,2 AND AMIT VERMA, M.D.3

Departments of 1Neurosurgery and 1Neurology, The Methodist Hospital, Houston, Texas; and 2Department of Neurosurgery, University of Southern California, Los Angeles, California

Surgical treatment of medically intractable seizure disorders is a growing area in neurosurgery, a growth that has incorporated advances in neuroimaging, image-guided surgery, miniaturization of electronics, and development of brain-computer interfaces. This issue of Neurosurgical Focus presents 14 thoroughly researched and well-balanced articles that contain valuable new information for the epilepsy surgery team of neurosurgeons, intensivists, neurologists, neuroradiologists, neuropsychologists, nurses, and other staff who care for individuals with seizure disorders.

The articles in this issue of Focus are organized and presented in an order that takes the reader from demographic aspects of epilepsy to diagnostic methods, to aspects of resection, and then to neuromodulation. In the following sequence of authors and articles, the author cited is the corresponding author, and numbers refer to the order of the articles. This Focus issue contains a rich harvest of stimulating material.

Articles 1 and 2: the health care burden of patients with epilepsy is discussed by Vale, and inequities in access to pediatric epilepsy surgery by Bernstein.

Articles 3 and 4: new methods of diagnosis and prognosis are discussed by Fountas and Dulay.

Article 5: epilepsy as a manifestation of a specific disorder is discussed by Evans.

Articles 6 and 7: surgical techniques are discussed by Desai (recording from the insula) and by Rangel-Castilla (hemispherectomy).

Articles 8–10: analyses of resective surgery are given by Sagher (seizure outcomes and mesial resection volumes following temporal lobectomy), by Vale (failed surgery for mesial temporal sclerosis), and by Kershenovich (outcome of resection in posttraumatic epilepsy).

Articles 11–14: neuromodulation is discussed by Dlouhy (lead revision in vagal nerve stimulation), by Guthikonda (vagal nerve stimulation literature review), by Yoshor (brain stimulation), and by Chang (comparison of vagus nerve, thalamic deep brain stimulation, and responsive neurostimulation).

Disclosure

Dr. Liu is a consultant for Integra, and Dr. Verma has served on the speakers bureau for Cyberonics.

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