



김 만 호

서울대병원

## Pathophysiology of Blood-Brain-Barrier in Neurological Disorders

Man-ho Kim<sup>1</sup>

<sup>1</sup>Neurology/Seoul National University, College of Medicine, Seoul National University Hospital 101 Daehakro, Chongnoku, Seoul, South Korea

In neurologists, BBB has been considered as a barrier not only to the organisms but to the drug delivery. Disruption of BBB is well-known in cerebrovascular disease, brain tumor, or infection, etc. Management of brain edema, that is, control of the disruption by BBB-induced damage, can be the one of the way to modify the disease course. However, in case of neurodegenerative disorder or paroxysmal disorders, role of BBB is almost unknown, although there are hypothesis or data from experimental models. Contrast enhancement materials have been used to differentiate lesions that cause BBB, although its application has been limited to specific disorders such as infection or mass lesions, that might be mediated or disruption of BBB. However, in neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease, Amyotrophic lateral sclerosis or Huntington's disease, etc, it is not possible to detect whether there is pathophysiology of BBB by conventional contrast enhancement technique. In this lecture, overview of the BBB pathophysiology on neurological disorders, and introducing the developing DCE- MRI (Dynamic contrast enhancement-Magnetic resonance imaging) for the possible clinical application in the field of neurological disorders.

**Key Words:** Blood Brain Barrier, paroxysmal disorder, neurodegenerative disorder, MRI

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### Man-ho Kim, MD

Neurology/Seoul National University, College of Medicine, Seoul  
National University Hospital 101 Daehakro, Chongnoku, Seoul,  
South Korea

Tel: +82-2-2072-2193, Fax: +82-2-3672-7553

E-mail: kimmanho@snu.ac.kr