

CURRICULUM VITAE

고 은 정

근무처: 전북대학교 의학전문대학원/의과대학 신경외과 교수
전라북도 전주시 덕진구 건지로 20
Tel: 063-280-1870
Email: kohejns@jbnu.ac.kr

학력 및 경력사항

2000 전북대학교 의과대학 졸업
2005-2007 전북대학교병원 신경외과 전임의
2007-2007 전북대학교병원 신경외과 임상교수
2007-2009 전북대학교 의학전문대학원 전임강사
2009-2012 전북대학교 의학전문대학원 조교수
2012-현재 전북대학교 의학전문대학원/의과대학 부교수

관심분야

운동이상질환, 기능성 뇌질환, 뇌정위수술, 감마나이프수술

관련학회 활동

대한정위기능신경외과학회
대한감마나이프방사선수술학회,
대한뇌전증학회



Novel Approach of Non-invasive Functional Brain Mapping

Eun-jeong Koh, MD

Department of Neurosurgery, Chonbuk National University Medical School Hospital, Korea

It is mandatory to have accurate knowledge of the location of the lesion and of the nearby functional brain tissue before resection. Direct cortical stimulation (DCS) has become the intraoperative gold standard no such standard as yet exists for preoperative functional mapping, which is traditionally performed by functional magnetic resonance imaging (fMRI). However, the limitations of this technique are widely recognized. These are often described in terms of the so-called "get-what-you-(barely)-see" limits of the BOLD effect, which refers to the fact that acquired images do not always correspond to anatomical reality. Identification of essential functional areas based on measurement of metabolic activity might bear some systematic errors. So fMRI results are often unsatisfactory since this level of accuracy is still considered suboptimal.

Navigated transcranial magnetic stimulation (nTMS)-so far mostly used for the treatment of tinnitus, depression or chronic pain-has recently been suggested as an alternative method of functional preoperative brain mapping. Many studies were published the results of comparing nTMS versus fMRI with the intraoperative DCS to evaluate the reliability of nTMS as a practical tool in the pre- and intraoperative assessment of lesions in eloquent areas. At present time, nTMS is the only noninvasive method for pre-surgical mapping that establishes a causal link between the stimulation of an area and the observed motor output in a fashion similar to DCS. The major advantage of nTMS over DCS is that it is conducted pre-operatively and this information can be used in the pre-surgical planning to establish the most appropriate site for craniotomy. Moreover, nTMS data can be useful when DCS mapping and monitoring is not possible due to intraoperative complications because nTMS is not affected by anatomical and vascular distortions caused by the lesion.

In this presentation I introduce the methods and results of functional brain mapping with nTMS.

MEMO

