

عنوان مقاله:

Functional MRI & its recent applications in Clinical Medicine

محل انتشار:

پنجمین کنفرانس بین المللی مطالعات جهانی در علوم تکنولوژی و مهندسی (سال: 1400)

تعداد صفحات اصل مقاله: 15

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خلاصه مقاله:

The discovery that MRI could be made sensitive to brain activity as well as brain anatomy is only about ۲۰years old. Functional Magnetic Resonance Imaging (fMRI) is a class of imaging methods developed in order to demonstrate regional, time- varying changes in brain metabolism. This method emerged as a useful imaging technique in ۱۹۹۰, and has since developed rapidly. The fMRI can not only noninvasively record brain signals without risks of ionizing radiation inherent in other scanning methods, such as CT or PET scans, but also record signal from all regions of the brain, unlike EEG/MEG which are biased towards the cortical surface. Aims of functional analysis of neural activity from fMRI include biological findings, functional connectivity, vision and hearing research, emotional research, neurosurgical planning, pain management, and many others. fMRI data gives the neurosurgeon the opportunity to make more informed decisions regarding the approach to the tumor and the necessity for invasive mapping procedures. Clinical applications of resting-state fMRI are at an early stage of development. However, its use in presurgical planning for patients with brain tumor and epilepsy demonstrates early promise, and the technique may have a future role in providing diagnostic and prognostic information for neurologic and psychiatric diseases. This .review will discuss about fMRI & the most common current clinical applications of fMRI as well as emerging directions

کلمات کلیدی:

fMRI, Clinical Application, Brian, Bold

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