Poster PE-10

Neural correlations of familiar and Unfamiliar face recognition by using Event-Related fMRI

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목적 : This event-related fMRI study was to further our understanding about how different brain regions could contribute to effective access of specific information related to cognitive process and shows the different response of brain regions involved in recognition of familiar faces compared to unfamiliar faces and repetition effect.

대상 및 방법 : The paradigm consists of two 52 familiar faces, 52 unfamiliar faces or control base with scrambled faces in a randomized order, with null events. Volunteers were instructed to press on one of two possible buttons of a response box to indicate whether a face was familiar or not. Incorrect answers were ignored. A 1.5T MRI system(GMENS) was employed to evaluate brain activity by using blood oxygen level-dependent (BOLD) contrast. Gradient Echo EPI sequence with TR/TE=3000/60 msec was used for 24 contiguous axial slices of 5mm thickness, covering the whole brain volume (240mm Field-of-view, 64 x 64 in plane resolution). The acquired data were applied to SPM99 for the preprocessing and statistical process.

결과 및 결론 : The face recognition of brain yielded significant activations in the occipito-temporal regions, the medial temporal regions, and in frontal regions. These results suggest that when volunteers are asked to recognize familiar faces among unfamiliar faces they tend to activate several regions frequently involved in face perception. The bilateral fusiform areas are activated for familiar and unfamiliar faces. The repeated stimulus processing produces decreasing response called repetition suppression effect in the left fusiform area