Oral MO-6 *(14:20 - 14:30)*

Differential Brain Activation Associated with Visual Sexual Arousal between Premenopausal and Menopausal Women: fMRI

김형중[1], 정광우[1],은성종[1],강형근[1],서정진[1],박광성[2]

전남대학교 의과대학 진단방사선과학교실[1], 비뇨기과학교실[2]

목적 :

In this study, we compared the cerebral regions associated with sexual arousal between the premenopausal and menopausal women by using fMRI.

대상 및 방법 :

Ten premenopausal women(mean age: 37) and ten menopausal women(mean age: 52) with sexually potent underwent to fMRI on a 1.5T MR scanner (GE Signa Horizon). The fMRI data were obtained from 7 oblique planes using gradient-echo EPI with 50ms TE, 6000ms TR, 26cm×26cm field-of-view, 128×128 matrix, and 10mm slice thickness.

Sexual stimulation began with a 1-minute rest with a non-erotic video film and a 4-minute stimulation by an erotic video film. The brain activation maps and their resulting quantification were analyzed by the statistical parametric mapping (SPM99) and our home-made software. The activation ratio(%) was measured on the basis of population and the enhanced signal intensity(%) was calculated from the time course data.

결과 :

Overall activation ratios of the premenopausal women are greater over the menopausal women by ~8% in average. The predominant activation ratios were observed in the head of caudate nucleus, putamen, cingulate gyrus and splenium of corpus callosum by 30.0%, 20.0%, 20.0% and 20.0% for premenopausal women, body of caudate nucleus and insula cortex by 20.0%, and 20.0% for menopausal women, respectively. The average of enhanced signal intensities(%) in each brain center as follows: limbic area(2.68±1.21), paralimbic area(3.37±2.09), and temporal association area and others(3.75±1.93) for premenopausal women; limbic area(2.30±0.95), paralimbic area(3.60±1.59), and temporal association area and others(3.27±1.51) for menopausal women. In general, the limbic and temporal association area & others gave greater enhancement of signal intensities in premenopausal women: most of paralimbic area except insula, and superior frontal gyrus are dominant in menopausal women.

결론 :

This pilot study gives valuable information that the activated brain centers and their activities associated with visually evoked sexual arousal between premenopausal and menopausal women are quantitatively different from each other.