

Article: 0779

Topic: EPW21 - e-Poster Walk Session 21: Neuroimaging

Impaired Frontal Cortex Function During Response Inhibition in Sex Addicts

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Response inhibition, a crucial factor of executive function, involves the ability to suppress irrelevant or interfering information and impulses. Clinical evidence suggests that Sex addicts have impairment of response inhibition as measured by behavioral task of response inhibition (Go-No go task) and a self report questionnaire (BIS-2 scale). To date, almost no studies have been conducted using functional imaging techniques to directly compare inhibitory control between Sex Addicts and controls. The present study examined neural substrates of response inhibition in Sex Addicts. Ten male with Sexual Addiction (20-35 age), age and intelligence quotient matched healthy controls were imaged using fMRI while performing Go-No go task. The results indicate that Sex Addicts find it difficult to inhibit their own actions ($t = 2.72, p < 0.01$). There were no differences in the neural substrates during Go trials between the groups. However, the controls were significantly hyperactive during No go trials in the right superior medial frontal gyrus (BA 6), left middle frontal gyrus (BA 46). Our result suggest that the frontal cortex may be involved in the circuit modulating inhibitory control, and its impaired function may relate to pathologic sexuality in Sex Addicts (i.e. an inability to control one's sexual behavior, thought, fantasy). These results also reveal a neurofunctional basis for this dysexecutive factor to Sexual Addiction.