

# Stereotactic Bilateral Anterior Cingulotomy for Refractory Obsessive-Compulsive Disorder

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I will present results of cingulotomy, with a review of the literature, in an attempt to evaluate the role of anterior cingulate cortex in OCD as well as pathophysiologic mechanism of improvement of symptoms. We operated upon 18 patients with OCD utilizing magnetic resonance image-guided stereotactic bilateral anterior cingulotomy. As well, in patients with refractory OCD, we investigated the role of SPECT/PET for the diagnosis of disease and tools for the evaluation of the surgical outcome of patients. In all patients, bilateral anterior cingulotomy was associated with significant improvement of OCD symptoms. We believe that because we made a lesion that was larger than that used in other studies, the symptom relief experienced by patients was significantly, even remarkably, improved. However, we did experience minor and transient mental deterioration, described as a non-responsive/flat affect, minor interference of verbal fluency, lack of spontaneity and minor personality changes, although these subsided within a week. Neuropsychological changes appear to be minimal and the risks acceptable, when set against the benefit of treating refractory OCD. Our neurocognitive battery of tests of these patients demonstrated that cingulotomy did not cause any significant cognitive problems in areas such as intelligence, language, visuospatial skills, and frontal executive function in patients with OCD. On the contrary, we observed an improvement of intellectual function after cingulotomy in several patients, even though not to a statistically significant degree. The transient postoperative complications seemed to occur due to temporary peri-lesional brain edema around the lesions. However, we do think that these minor neurobehavioral sequelae do not hinder the performance of cingulotomy as an alternative treatment method for a certain portion of refractory OCD patients in order to improve their quality of life. This results suggest that bilateral anterior cingulotomy may be a useful alternative method of controlling refractory OCD.