Stereotact Funct Neurosurg 2013;91:264

DOI: [10.1159/000348277](https://doi.org/10.1159/000348277)

Comment on the Study ‘Long-Term Efficacy of Stereotactic Bilateral Anterior Cingulotomy and Bilateral Anterior Capsulotomy as a Treatment for Refractory Obsessive-Compulsive Disorder’ by Zhang et al.

G. Rees Cosgrove

Department of Neurosurgery, Neurosurgery Foundation –
Brown University, Providence, R.I., USA

The article by Zhang et al. [1] describes a limited experience of combined bilateral anterior cingulotomy and anterior capsulotomy in the treatment of 7 patients with severe, treatment-refractory obsessive-compulsive disorder (OCD). Their results at 1 year suggest that 5/7 were clear-cut responders (>35% improvement in the Yale-Brown Obsessive Compulsive Scale) with few or minimal side effects. This is consistent with recent reports of cingulotomy/limbic leukotomy, anterior capsulotomy and deep brain stimulation in similar patient populations.

It has been my experience along with other practitioners, however, that the benefits of ablative surgery for OCD often improve over time periods even greater than 1 year. The results of these investigators suggest that the benefits of multiple lesions within the limbic system may provide an enhanced benefit at an earlier time point than is typically seen. It would, therefore, be of great interest to have the results of their surgical intervention at 2 years of follow-up.

One additional concept raised by the investigators’ observations is that multiple lesions along the limbic circuit may provide better response rates than single albeit bilateral lesions. This concept was first proposed by Sir Desmond Kelley when he devised the limbic leukotomy consisting of combined anterior cingulate and subcaudate tractotomy lesions. Whether multiple lesions offer significantly better success rates clinically remains unanswered.

Nonetheless, one of the most important considerations of any ablative surgery for psychiatric disorders is the ability to impart clinical benefit with minimal or few side effects. In my experience, anterior cingulotomy is a very safe procedure with few if any neuropsychological consequences. Anterior capsulotomy is also very safe but carries a slightly higher risk of neurocognitive and behavioral side effects. One might expect that by combining these two lesion procedures, the side effects might be more than simply additive, but this was not the case in this series. Unfortunately, the authors did not apply a modern or comprehensive assessment of significant adverse effects along with their outcome data. This would require a semi-structured SAFTEE and detailed neuropsychological testing at defined follow-up visits which is very costly and labor intensive and is almost never accomplished in standard clinical series.

Nevertheless, with this publication, the authors have provided another piece of evidence that relatively small stereotactic lesions within the limbic system circuitry can impart significant improvement in selected patients with severe and intractable OCD.

References

- 1 Zhang QJ, Wang WH, Wei XP: Long-term efficacy of stereotactic bilateral anterior cingulotomy and bilateral anterior capsulotomy as a treatment for refractory obsessive-compulsive disorder. *Stereotact Funct Neurosurg* 2013;91:258–261.