

Symposium | OCD : [Symposium 100] Obsessive and Compulsive Disorder: Recent progress through the collaboration of neurobiological research and the development of new clinical treatment modalities.

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[Symposium 100] Obsessive and Compulsive Disorder: Recent progress through the collaboration of neurobiological research and the development of new clinical treatment modalities.

Moderator: Hisato Matsunaga (Hyogo Medical University), M Sai Spoorthy (All India Institute of Medical Sciences)

[SY-100-03] Targeting the Anterior Cingulate cortex in Obsessive-Compulsive Disorder: From Capsulotomy to Deep TMS

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Obsessive-Compulsive Disorder is now viewed as a dysfunction of the cortico-striato-thalamo-cortical (CSTC) loop. Neuroimaging studies have consistently shown that the anterior cingulate cortex, a key node in this loop, exhibits heightened activity in affected individuals. A variety of neuromodulatory approaches—including lesional, electrical, and magnetic techniques—have been developed to target dysfunctional activity within the CSTC circuit, particularly focusing on the anterior cingulate cortex (ACC). These interventions have demonstrated clinical benefits in reducing obsessive-compulsive symptoms by modulating hyperactive nodes and associated pathways in this neural network. In particular, the H7 coil used in Deep TMS is designed to target the medial prefrontal cortex and the ACC, enabling noninvasive modulation of this critical circuit. According to findings from randomized controlled trials (RCTs) and naturalistic studies, Deep TMS yields response rates of approximately 38–45% in patients with treatment-resistant obsessive-compulsive disorder. Moreover, over 85% of responders maintained their clinical gains at one-year follow-up, demonstrating both efficacy and long-term durability. In January 2025, our clinic introduced the H7 coil for Deep TMS treatment in Korea, initiating a protocol specifically targeting the anterior cingulate cortex. Since then, we have treated 10 patients with treatment-resistant obsessive-compulsive disorder and observed pre- and post-treatment changes in both clinical symptoms and neurophysiological markers.