Symposium | Nurodevelopmental disorder：[Symposium 112] A Multidimensional Approach to Tourette Syndrome in Japan and Korea

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[Symposium 112] A Multidimensional Approach to Tourette Syndrome in Japan and Korea

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[SY-112-02] Considering the future of DBS for Tourette syndrome based on our experience in the past

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Numerous reports indicate that deep brain stimulation (DBS) is effective for treatment-resistant Tourette syndrome. DBS therapy has been conducted in more than 50 patients in Japan. We have been performing centromedian-parafascicular (CM-Pf) complex DBS since 2008. In our experience with 42 cases, tic severity, as assessed by the Yale Global Tic Severity Scale, generally decreased by half within one year postoperatively and remained stable for years thereafter. Dysarthria was the most common stimulation-induced complication, which occurred in 30.9% of cases. Device infection occurred in 9.5% of cases. However, the effects of DBS vary among individual. The optimal stimulation target remains unclear, as several targets —such as the CM-Pf, anterior globus pallidus internus, and subthalamic nucleus—have been reported for Tourette DBS. There are no established predictive factors for the effectiveness of DBS treatment. Psychiatric comorbidities, which are common in many patients, may also influence prognosis. In our cases, nine patients discontinued DBS due to infection or at the patient's request. In six of these cases, symptoms did not worsen as severely as before surgery, even after stopping DBS, leading the patients to remain off stimulation. This suggests that DBS may suppress excessive thalamocortical circuit activity and exert long-term regulatory effects. To continue surgery safely, it is important to recognize the still-unknown aspects of DBS effects. DBS should ideally be performed as a collaborative effort involving neurosurgery, psychiatry, and pediatrics, both before and after surgery, under ethical considerations.