

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

📅 Sun. Sep 28, 2025 4:30 PM - 6:00 PM JST | Sun. Sep 28, 2025 7:30 AM - 9:00 AM UTC 🏢 Session Room 5 (Conference Room A)

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

Moderator: Yukiko Kano (The University of Tokyo), Jin-Hwa Moon (Hanyang University)

[SY-112]

A Multidimensional Approach to Tourette Syndrome in Japan and Korea

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[SY-112-01]

Development of an Intensive Psychoeducational Program for Tic Disorders using Internet-based Materials in Japan

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[SY-112-02]

Considering the future of DBS for Tourette syndrome based on our experience in the past

*Yuiko Kimura¹, Masaki Iwasaki¹ (1. National Center of Neurology and Psychiatry Hospital (Japan))

[SY-112-03]

An Empirical Study on Self-Coping Strategies for Tics in Tourette Syndrome: Focusing on Premonitory Urges and the Semi-Voluntary Nature of Tics

*Natsumi Matsuda^{1,2} (1. Shirayuri University (Japan), 2. The University of Tokyo (Japan))

[SY-112-04]

Neurocognitive and behavioral profiles of children with tic disorders/Tourette syndrome with normal cognitive abilities

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Keywords : Tourette syndrome、tics、bio-psycho-social perspectives、developmental perspectives

Tourette syndrome is a chronic tic disorder with motor and vocal tics, which is included in movement disorders, neurodevelopmental disorders, and obsessive-compulsive disorders or related disorders, according to ICD-11. We believe that an approach that integrates the bio-psycho-social and developmental perspectives is necessary in dealing with this disorder. In other words, it is important to consider mental development of the patients, their developmental course, and social environment surrounding the patients, including the family, when treating the patients in consideration of the neurobiological basis.

Therefore, we would like to consolidate the findings of therapeutic approaches from multiple perspectives in Japan and Korea and discuss how to improve the understanding and treatment of Tourette syndrome.

As a treatment focusing on the biological aspect, deep brain stimulation for the patients with refractory Tourette syndrome in Japan will be reported.

As a treatment focusing on the psychological aspect, the development of an intensive psychoeducation program using Internet-based materials in Japan will be reported.

In addition, since Comprehensive Behavioral Intervention for Tics (CBIT) is internationally regarded as the first-line treatment for Tourette syndrome but there are few facilities in Japan that provide it, a CBIT combining online and face-to-face delivery has been developed and its progress will be reported.

Furthermore, the actual situation and treatment of patients with tic disorders, especially Tourette syndrome, in Korea will be reported. By comparing the findings of Tourette syndrome in Japan and Korea, it is expected to be possible to examine the influence of the social environment.

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[SY-112-01] Development of an Intensive Psychoeducational Program for Tic Disorders using Internet-based Materials in Japan

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Keywords : tic disorders、psychoeducation、internet-based、Comprehensive Behavioral Intervention for Tics (CBIT)、Tourette syndrome

Cognitive behavioral therapy focusing on tics, including Comprehensive Behavioral Intervention for Tics (CBIT), has been established as an evidence-based treatment in the United States and Europe. In Japan, however, only a few psychologists are interested in treating tics, and even psychoeducation, which could be an introduction to CBIT, has not been sufficiently conducted.

We aim to develop psychoeducational materials for tic disorders that include the essence of CBIT and are adapted to the current situation in Japan. The materials should be internet-based so that they can be accessed independently anywhere in Japan, and should be developed in collaboration with patients with tic disorders and their families.

Two child psychiatrists and two clinical psychologists with extensive experience in treatment and support of Tourette syndrome developed the first version of the psychoeducational materials through discussions with patients with Tourette syndrome and their families. Based on the input of several patients with tic disorders and their families, we revised this first version and completed the psychoeducational material. With the collaboration of two patients and the family who are trying to raise social awareness based on their own experiences, we created psychoeducational materials consisting of four parts: (1) Basic Understanding of Tic Disorders and Structure of Treatment, (2) Learning about Functional Analysis, (3) Basic Understanding of Habit Reversal, and (4) Coping with Tic Disorders. In addition to lectures on these topics using slide presentations, several exercises were provided to encourage patients to view the materials actively. Based on the aforementioned input from patients and their families, videos of the treatment of a simulated patient were added to help patients understand how CBIT is actually implemented.

Thus, we have developed Internet-based psychoeducational materials that address the unmet needs of patients with tic disorders and their families in Japan.

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Moderator: Yukiko Kano (The University of Tokyo), Jin-Hwa Moon (Hanyang University)

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

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Keywords : Deep brain stimulation、Tourette syndrome、predictive factor

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.

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[SY-112-03] An Empirical Study on Self-Coping Strategies for Tics in Tourette Syndrome: Focusing on Premonitory Urges and the Semi-Voluntary Nature of Tics

*Natsumi Matsuda^{1,2} (1. Shirayuri University (Japan), 2. The University of Tokyo (Japan))

Keywords : Tourette Syndrome、 Self-Coping Strategies、 Premonitory Urges、 Behavioral experiments、 qualitative studies

This presentation summarizes a comprehensive research project on self-coping strategies for tics in individuals with Tourette Syndrome (TS), based on a doctoral dissertation. TS is characterized by semi-voluntary motor and vocal tics often preceded by premonitory urges. Patients commonly engage in self-coping to manage symptoms, yet little is known about the nature or effectiveness of such strategies. The project incorporated **quantitative studies, qualitative research, and behavioral experiments** to explore self-coping in depth. Questionnaire data from over 100 individuals with TS revealed that suppressive coping is frequently used, but it often causes discomfort and is difficult to sustain over time. **Qualitative interviews** with individuals with TS generated six categories of self-coping, and two key hypotheses emerged: (1) that tics must be released to alleviate discomfort, and (2) that attention exacerbates tics. These beliefs were further tested in **behavioral experiments** using ABAB designs and physiological recordings, showing that premonitory urges do not consistently increase with suppression or focused attention, except in severe obsessive-compulsive cases. The findings also identified contextual factors—such as emotional regulation, acceptance, and supportive environments—that enhance coping effectiveness. Age differences in coping styles and their impact on quality of life were also observed. Synthesizing these results, a new cognitive-behavioral model was proposed, highlighting how beliefs about tic-related urges and attentional focus may influence the persistence or worsening of symptoms. This study offers novel clinical implications for supporting more adaptive, personalized coping strategies in TS, and emphasizes the importance of understanding the interplay between cognition, behavior, and sensory experience.

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[SY-112-04] Neurocognitive and behavioral profiles of children with tic disorders/Tourette syndrome with normal cognitive abilities

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Keywords : Tic disorder、Tourette syndrome、Neurocognitive profile、Behavior problem、children

The incidence of tic disorders has been increasing in Korea. Children with tic disorders or Tourette syndrome (TDS) who visiting pediatric neurologists appeared to have increased during COVID-19 pandemic. Tic disorders are often accompanied by various behavioral problems and can be the comorbidities of other neurodevelopmental disorders or psychiatric conditions. However, it may not be appropriate to directly apply the data obtained from patients with various developmental problems to patients visiting the hospital for the first time. In order to understand the effects of tic brain itself, we investigated the behavioral and cognitive characteristics of children with tic disorders with normal cognitive function and compared them with healthy controls. The results of neurocognitive and behavioral assessments were analyzed for 36 children with TDS (male:female=27:9), aged 6 to 14 years (mean age±SD: 9.5±2.1 years). The results of Korean-Wechsler intelligence scale for children (K-WISC version-III, IV, V) showed that across-averaged mean full scale IQ was 98.8±11.7. In TDS group, visuo-spatial cognitive abilities tended to be lower than verbal comprehension. In the results of Korean-child behavior checklists (K-CBCL) for the emotional and behavioral problems, the TDS group showed significantly higher proportions of borderline or clinical ranges in almost all problems; internalizing, externalizing, and total problems, anxious/depressed, somatic complaints, thought, anxiety and somatic problems. Attention-deficit/hyperactivity(ADHD), obsessive-compulsive and stress problems were higher in TDS group. The mean Korean-ADHD Rating Scale-IV score was 11.3±7.7 and 17.1% was above the clinical cutoff (more than 19 by parent) for ADHD. Our results showed that children with TDS with normal cognitive level exhibited diverse behavioral problems at the first visit. Behavioral assessments should be incorporated as initial evaluations for TDS even in patients with tic only symptoms. (The content of this abstracts is being prepared for publication in Annals of Child Neurology)