

posterior cingulate cortex, anterior cingulate cortex, insula and dorsal raphe nuclei in patients with ADHD. The precuneus and the hippocampus represent brain regions with the most widespread correlations. The findings of this PET study suggest an inherent neuronal pattern of SERT binding in ADHD, therefore suggesting the SERT in the neurobiology of ADHD.

PT551

Recognition and discrimination of facial emotion expression in Children with Attention-Deficit Hyperactivity Disorder and Autism Spectrum Disorder

Young Sook Kwack, Jeju National University Hospital, Republic of Korea

Abstract

Objectives : Impairment in facial emotion recognition and facial emotion discrimination is established findings in autism spectrum disorders(ASD). And children with attention-deficit hyperactivity disorder (ADHD) also experience significant difficulty in recognizing and discriminating facial emotion. this study aimed to investigate the differences in facial emotion recognition and emotion discrimination between children with ADHD and ASD children.

Methods: 53 children, aged 7 to 11 years participated in this study. Among them, 42 children were diagnosed with ADHD and 11 children were diagnosed with ASD. We examined the ability to recognize facial emotion expression by using Penn Emotion Recognition Task (ER40) and we measured ability to discriminate facial emotional intensity by using Penn Emotion Discrimination Task(EDF40).

Results: ADHD children were found to have better ability than ASD children in the recognition of happy and sad faces, but there was no significant difference in the recognition of angry, fear, and no emotion faces between two groups. Also, ADHD children recognized facial emotion expression better than ASD children when they shown female faces, but We found no significant difference between two groups when they shown male face. And ADHD children showed better ability than ASD children in the recognition of intense emotion expression but there was no significant difference in the recognition of mild emotional expression between two groups. We found no statistically significant difference in the discrimination of facial emotional intensity between the children with ADHD and ASD children.

Conclusion: The results of our study suggested that children with ADHD have better ability in facial emotion recognition than children with ASD, yet have deficit in facial emotional intensity discrimination equal to children with ASD.

PT552

Association of the GRIN2B rs2284411 polymorphism with methylphenidate response in attention-deficit/hyperactivity disorder

Johanna Inhyang Kim¹, Kyungmin Kim¹, Jae-Won Kim¹, Soon-Beom Hong¹, Bung-Nyun Kim¹

¹Division of Child and Adolescent Psychiatry, Department of Psychiatry, Seoul National University College of Medicine, Seoul, Republic of Korea

Abstract

Objective: Animal studies suggest the involvement of N-methyl-D-aspartate (NMDA) receptors as a novel mechanism of methylphenidate (MPH). We investigated the association between the NMDA subunit 2B gene (GRIN2B) and the treatment response to MPH in attention-deficit/hyperactivity disorder (ADHD).

Methods: A total of 75 ADHD patients aged 6–17 years completed the pre- and post-treatment assessments after 6 months of MPH administration. Treatment response was defined by changes in scores on the parent version of the ADHD-IV Rating Scale (ADHD-RS), clinician-rated Clinical Global Impression – Improvement (CGI-I), and Continuous Performance Test (CPT). The association of the GRIN2B rs2284411 polymorphism with treatment response was analyzed using a series of logistic regression analyses.

Results: There was a significant genotype effect in treatment response as assessed by ADHD-RS inattention ($p = 0.009$), hyperactivity-impulsivity ($p = 0.028$), and total ($p = 0.023$) scores, and in the CGI-I scores ($p = 0.009$) after adjusting for age, sex, IQ, baseline Clinical Global Impression – Severity score, baseline ADHD-RS total score, and final MPH dose. When using a stricter standard, the C/C genotype was associated with greater improvement in ADHD-RS inattention and CGI-I ($p = 0.026$), ADHD-RS hyperactivity-impulsivity and CGI-I ($p = 0.017$), and ADHD-RS total and CGI-I ($p = 0.048$) scores. Improvement in response time variability scores of the CPT differed between GRIN2B genotypes ($p < 0.001$).

Conclusions: The results suggest that the GRINB rs2284411 genotype may be an important predictor of MPH response in ADHD. Further placebo-controlled randomized studies with larger samples are required.

PT553

Differences in Utilization Patterns among Medications in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder: a 36-Month Naturalistic Retrospective Study using the Korean Health Insurance Review and Assessment claims database

Jun-Won Hwang, Jin-Hyeong Jhoo

Department of Psychiatry, Kangwon National University Hospital, Kangwon National University School of Medicine, Chuncheon, South Korea

Abstract

Specific objective of the study: We evaluated the differences in utilization patterns including persistence and adherence among medications in children and adolescents with attention deficit hyperactivity disorder (ADHD).

Methods used: The current study was performed using data from the Korean Health Insurance Review and Assessment claims database from January 1, 2009 to December 31, 2013. Our study sample consisted of 10,343 children and adolescents with ADHD who were not given their newly prescribed medication in 360 days before the initial claim in 2010. Data were followed up from the initiation of treatment with ADHD medications in 2010 to December 31, 2013.

Summary of results: Discontinuation rates for 4 ADHD medications in our sample ranged from 97.7% for immediate-release methylphenidate to 99.4% for atomoxetine using refill gap more than 30 days and from 56.7% for immediate-release methylphenidate to 62.3% for extended-release methylphenidate using refill gap more than 60 days. In the number of discontinued, we found significant differences among medications using refill gap more than 30 days. Among 4 ADHD medications, extended-release methylphenidate and atomoxetine had more days than immediate-release methylphenidate and osmotic-controlled oral delivery system methylphenidate. In logistic regression analyses, extended-release methylphenidate, osmotic-controlled oral delivery system methylphenidate, and atomoxetine showed less discontinuation compared to immediate-release