treatment with LAIs. On the other hand, only 9.7 (15/158) % of patients thought that LAIs is "very suitable" or "suitable" for them. More than half of patients thought that LAIs are fewer side effects and more reliable therapeutic option.
Conclusions: Our results clarified the gaps of attitudes toward LAIs between psychiatrists and patients with schizophrenia. Positive impression concerning side effects may promote uptake of newer LAIs.

PM400

Differences in assessing insight into psychosis between clinicians and patients with schizophrenia

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Abstract
Background: Impaired insight is a common feature of schizophrenia, related to poor treatment compliance and unfavorable outcome. This study was aimed to explore the internal structures of insight evaluated by self-reported and clinician-rated measures.
Methods: To measure insight into psychosis as a pilot study, Korean versions of VAGUS Self-Report(VAGUS-SR), Clinician-Rated(VAGUS-CR), The Scale for the Assessment of Unawareness of Mental Disorder(SUMD), and Schedule for the Assessment of Insight (SAI) were evaluated in 41 patients with schizophrenia. Multivariate statistical analyses were used to examine insight structures.
Results: VAGUS-SR and VAGUS-CR were significantly correlated to each other($r = 0.73$, $p < .001$), as well as SUMD and SAI. Gender of patients has a significant effect on the subscale scores. The link between 'illness awareness' and 'need for treatment' was revealed in VAGUS-SR, in contrast to VAGUS-CR which the link between 'illness awareness' and 'symptom attribution' was observed.
Discussion: This study demonstrated that insight measured by self-report and clinician-ratings revealed distinct internal structures. The difficulties in communication between clinicians and patients may affect differences in insight structures. The VAGUS-CR and VAGUS-SR might be used complementarily to gain detailed information on insight into psychosis.
Key words: insight, psychosis, multivariate analysis

PM401

NMDA-enhancing agents improve cognitive function of patients with schizophrenia

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Abstract
Background: Recently, modulation of NMDA neurotransmission has become an attractive approach for discovering novel treatment for schizophrenia, particularly cognitive impairment. Sodium benzoate, a D-amino acid oxidase (DAAO) inhibitor, and sarcosine, a glycine transporter I (GlyT-1) inhibitor, both can enhance NMDA receptor-mediated neurotransmission. We proposed that combination of inhibiters DAAO and GlyT-1 may be more effective than inhibition of either in improving the cognitive functioning of schizophrenia patients.
Methods: This 12-week, double-blind, randomized, placebo-controlled trial compared adjunctive benzoate (1 g/day) plus sarcosine (2 g/day) vs. sarcosine (2 g/day) for clinical symptoms, cognitive function, and global functioning of chronic schizophrenia patients who have been stabilized with various second-generation antipsychotics. Participants were measured with the Positive and Negative Syndrome Scale and the Global Assessment of Functioning Scale every 3 weeks. Seven cognitive domains, recommended by the Measurement and Treatment Research to Improve Cognition in Schizophrenia Committee, were measured at weeks 0 and 12.
Results: Combination of both NMDA-enhancing agents, rather than sarcosine alone or placebo, improved global functioning and the global composite score of all 7 cognitive domains of patients with schizophrenia while their clinical symptoms remained unimproved.
Discussion: Our previous study showed that add-on benzoate improved cognitive function and clinical symptoms of chronic schizophrenia patients who had been stabilized at haloperidol or risperidone. Whether the cognitive improvement was secondary to symptom reduction remained uncertain. The findings of the current study plus the previous study suggest that NMDA-enhancement therapy can improve the cognitive function of patients with schizophrenia, supporting the pro-cognitive effect can be primary no matter whether clinical symptoms improve or not.

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PM402

Factors associated with sexual health in Korean patients with schizophrenia receiving risperidone monotherapy

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Abstract
Objective: This study aimed to investigate the factors associated with sexual function in Korean patients with schizophrenia.
Methods: This study evaluated 169 patients with schizophrenia who were receiving risperidone monotherapy. The Visual Analogue Scale (VAS) was used to assess sexual function in terms of sexual desire, sexual arousal, and sexual satisfaction. The Positive and Negative Syndrome Scale (PANSS), the Beck Depression Inventory (BDI), the Subjective Well-Being Under Neuroleptic Treatment-Brief Form (SWN-K) scale, and the Drug Attitude Inventory (DAI) were also administered.
Results: Sexual function was negatively associated with age, duration of illness, gender (female), marital status (single), the presence of tardive dyskinesia (TD), and Beck Depression Inventory score, but positively associated with SWN-K and DAI

scores. A linear regression analysis revealed that being male and married had significant positive associations with sexual arousal, sexual satisfaction, and/or sexual desire, while the presence of TD and a longer duration of illness were associated with poor sexual arousal and/or sexual desire. Additionally, sexual function was significantly associated with SWN-K and DAI scores in multivariate analysis.
Conclusions: The acknowledgement and management of sexual dysfunction in patients with schizophrenia by clinicians may be important for improvement of their quality of life and adherence to medication.

PM403

Comparison between addition of and switching to aripiprazole for resolving antipsychotic-induced hyperprolactinemia

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Abstract
Objective: *Hyperprolactinemia is an important but often overlooked side effect of antipsychotics. Addition of and switching to aripiprazole normalized antipsychotics-induced hyperprolactinemia in several studies. However, there was no study that directly compared the effectiveness and safety of both strategies.*
Method: A total 52 patients with antipsychotics-induced hyperprolactinemia were recruited. Aripiprazole was added to patients with mild hyperprolactinemia (serum prolactin level lower than 50ng/ml). Patients with severe hyperprolactinemia (serum prolactin level higher than 50ng/ml) were randomized to aripiprazole addition group (adding aripiprazole to previous antipsychotics) or switching group (switching previous antipsychotics to aripiprazole). Serum prolactin levels, menstrual disturbances, sexual dysfunctions, psychopathologies, quality of life were measured at weeks 0, 1, 2, 4, 6 and 8.
Results: Both addition and switching strategies significantly reduced serum prolactin levels ($F(1, 199)=76.09$, $p<0.001$) and menstrual disturbances ($\chi^2=63.86$, $df=5$, $p<0.001$) over time and they improved sexual dysfunctions ($\chi^2=12.03$, $df=5$, $p=0.03$) in all groups. In patients with severe hyperprolactinemia, number of patients with hyperprolactinemia ($\chi^2=6.30$, $df=1$, $p=0.01$) and menstrual disturbance ($\chi^2=4.31$, $df=1$, $p=0.04$) in switching group was significantly lower than that in addition group at week 8.
Conclusion: Both addition and switching strategies were effective in resolving antipsychotics-induced hyperprolactinemia and hyperprolactinemia related adverse events including menstrual disturbances and sexual dysfunctions. These findings suggest that switching to aripiprazole may be more effective in normalizing hyperprolactinemia and improving hyperprolactinemia related adverse events in patients with schizophrenia.

PM405

Sodium Benzoate Add-on Treatment for Refractory Schizophrenia: A Randomized, Double-Blind, Placebo-Controlled Trial

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Abstract
Background: The treatment of refractory schizophrenia is a great challenge. Clozapine is the only approved antipsychotics for refractory schizophrenia; however, its efficacy is unsatisfactory. Enhancing N-methyl-D-aspartate receptor (NMDAR) activation, including inhibition of D-amino acid oxidase (DAAO), has been reported to improve the clinical symptoms and cognitive function of patients with schizophrenia. This study examined the efficacy and safety of a DAAO inhibitor, sodium benzoate, for the treatment of refractory schizophrenia.
Methods: We conducted a randomized, double-blind, placebo-controlled trial in four major centers in Taiwan. Sixty patients with refractory schizophrenia treated with clozapine were randomly allocated to sodium benzoate 1-g/d, sodium benzoate 2-g/d or placebo for a 6-weeks add-on therapy. The primary outcome measures including Positive and Negative Syndrome Scale (PANSS) total score, Scales for the Assessment of Negative symptoms (SANS), Quality of Life Scale (QOL) and Global Assessment of Function were assessed every two weeks.
Results: Both sodium benzoate 1-g/d and 2-g/d produced better improvement than placebo in SANS ($p = 0.024$ and 0.027 at endpoint, respectively). Sodium benzoate 2-g/d also produced better improvement than placebo in PANSS total score and QOL ($p = 0.005$ and 0.008 at endpoint, respectively). However, sodium benzoate 2-g/d was not significantly better than 1-g/d in all primary and secondary outcome measures. Sodium benzoate was well tolerated without evident side-effects.
Conclusions: Sodium benzoate adjuvant therapy significantly improved the negative symptoms of patients with refractory schizophrenia. The differences in efficacy domains between the two dose groups were insignificant.
Key words: N-methyl-D-aspartate, refractory schizophrenia, D-amino acids oxidase (DAAO) inhibitor, sodium benzoate, clinical trial

PM406

Urinary retention as a rare adverse effect of clozapine: a case report

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Abstract
Objective: Clozapine is a potent antipsychotics agent commonly prescribed for patients with refractory schizophrenia. However, it is also related to many troublesome adverse effects. For example, the common genitourinary adverse effects such as enuresis and urinary incontinence. Although clozapine is known for high anticholinergic activity, there has been only one case report about clozapine-related urinary retention in the literature. The aim of this study is to report a case of with clozapine-induced urinary retention and to discuss potential mechanisms.
Methods: Case report.
Results: We report a 19-year-old male patient of refractory schizophrenia who developed acute urinary retention during treatment with clozapine 200 mg/day and haloperidol 10 mg/day. Urodynamic study suggested dysfunctional voiding. After a series of work-up, simplification of medications and dose adjustment, the urinary retention seemed to be resulted from