

## Letter to the Editor

## rTMS as an add-on treatment for maladaptive daydreaming over 10 years in patients with schizophrenia: A case report



To the Editor,

We report the clinical case of antipsychotic drugs combined with high frequency repetitive transcranial magnetic stimulation (rTMS) in the treatment of schizophrenia with refractory negative symptoms. This patient showed maladaptive daydreaming over 10 years.

The patient was a 36-year-old Chinese male living with his parents. He was single, unemployed and had no children. He presented with a history of schizophrenia, the onset of which had been characterized by her talking to herself, persecutory delusions, auditory hallucinations and daydreaming since June 2007 at age 26.

At the time of introduction to department of psychiatry of our hospital on August 26, 2014, he took 10 mg olanzapine per day, he still had daydreaming and fantasy while not shown any positive symptoms of psychosis, such as delusions, hallucinations or disorganized. The patient was spending most of his time alone at home and rarely left the house. He reported that he spend much time daydreaming when he is alone, especially lying on the bed in the evening. He is always fantasizing a scene or plot which from movies or novels, including complex characters, relationship, stories, situations, places, images. Sometimes, he neglected his regular meals and showering because of daydreaming.

ignore the traffic lights when walking across the street. He tried to psychological treatment, but the response is not good.

The patient met DSM-V criteria for schizophrenia with predominantly negative symptoms, and no other concurrent diagnoses. During the period from August 2014 to January 2017, he had took olanzapine, sertraline, magnesium valproate, aripiprazole, with full therapeutic dosage and for enough duration that just resulted in few periods of transient partial remission, ie., the patient reported he was not so excited when fantasy to the climax of the story, and decreased in the frequency of fantasies. However, he still complained of inattention. On April 18, 2017, the patient received a combination of aripiprazole 5 mg/d and amisulpride 1200 mg/d. Since the day, the patient received rTMS (10 HZ for 1200 pluses, 100% of the motor threshold, for 25 min over the left dorsolateral prefrontal cortex (DLPFC)) with 3 times per week. A Magstim Super Rapid repetitive stimulator (Magstim Company Ltd., Whitland, Wales, UK) was used to conduct all rTMS sessions.

After 4 weeks of treatment, he reported decrease in frequency of fantasy, and can focus his attention. His mother reported that he could do some housework and go out for a walk. We used the Positive and Negative Syndrome Scale (PANSS) and the Scale for the Assessment of Negative Symptoms (SANS) to evaluate the negative symptoms, the

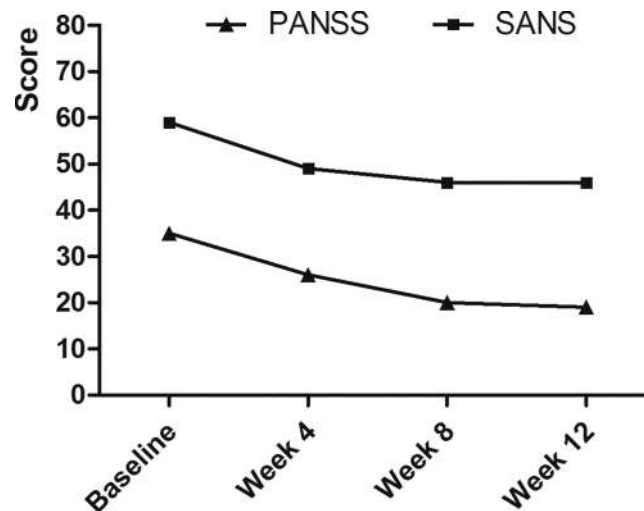


Fig. 1. PANSS negative subscale score and SANS score at baseline and at weeks 4, 8 and 12 of rTMS treatment.

He felt quiet excited at the thought of the climax of the story, as if he own some kind of martial arts or was personally on the scene. He complained of inattention and insomnia. He often do absent-minded things. He could not concentrate on playing computer games, and often

results showed a good response to rTMS (Fig. 1). Aripiprazole was discontinued and amisulpride was gradually decreased to 400 mg daily over the next two months. The patient has continued maintenance sessions of rTMS. Now, He found a job as a security guard in the market

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and can adapted to it.

rTMS is a method of noninvasive electromagnetic neurostimulation which has been used in the treatment of a range of psychiatric disorders, including mood disorders, anxiety disorders, and schizophrenia (Lefaucheur et al., 2014). Studies suggest rTMS may be particularly useful for schizophrenia as patients have symptoms resistant to pharmacotherapies (Mendes-Filho et al., 2013; Mittrach et al., 2010). Previous random control trials have found high frequency rTMS (10–20) to DLPFC was associated with a subsequent decrease in negative symptoms (i.e., poor motivation, flattened affect, apathy, social withdrawal) (Dlabacde Lange et al., 2015; Gan et al., 2015; Schneider et al., 2008). The mechanism may be through increasing cortical excitability in the target region of brain (Nettekoven et al., 2015). This patient's treatment was successfully and without complication. This case report may suggest that rTMS should be used for early treatment of negative symptoms of schizophrenia.

#### Conflict of interest

The authors report no conflicts of interest.

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