



Mutism in an adult case with autism spectrum disorder improved by aripiprazole

Shinji Sato, MD, PhD.¹, Yoichi Kawanishi, MD., PhD.², Masayuki Ide, MD. PhD.³,
Noriko Sodeyama, MD.³, Hitoshi Takei, MD.⁴

¹*Department of Psychiatry, Ibaraki Prefectural Hospital/Department of Psychiatry, Ibaraki Clinical Education and Training Center, Faculty of Medicine, University of Tsukuba, Japan*

²*Ushiku-Chuo Clinic*

³*Department of Psychiatry, Division of Clinical Medicine, Faculty of Medicine, University of Tsukuba*

⁴*Shiogasaki Hospital*

ABSTRACT

Autism spectrum disorder (ASD) includes disturbances in communication, imagination, and social interaction. In individuals with ASD, selective mutism is a common symptom of a communication disability. Selective serotonin reuptake inhibitors (SSRIs) have been recommended to treat selective mutism, especially after psychosocial interventions fail. However, the mechanism and efficacy of SSRIs in treating selective mutism remain unclear. Here we report the case of an adult male with ASD whose selective mutism was improved by aripiprazole but not SSRIs. To the best of our knowledge, this is the first such case report. We believe that our patient's case highlights the value of differentiating between psychopathology and psychopharmacology when examining ASD symptoms.

Keywords: *autistic spectrum disorder, aripiprazole, mutism, core symptoms*

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Introduction

Selective mutism is a common symptom in individuals with autism spectrum disorder (ASD), mainly in children, but it has also been observed in adults [1]. The prevalence of mutism among adults with ASD patients is not yet known, as is also the case for children with ASD [1]. The use of selective serotonin reuptake inhibitors (SSRIs) to treat selective mutism has been supported by at least two systematic reviews [1, 2]. Although symptoms of ASD have been relieved by non-pharmacological interventions, such interventions for mutism often fail. SSRIs are often considered to treat ASD-related mutism that might be associated with social anxiety. We present the case of an adult with ASD whose selective mutism did not improve with

SSRIs, but was improved by treatment with aripiprazole (ARI).

Case Report

Mr. A, a 25-year-old male, was referred by a mental health clinic to our psychiatric unit for treatment for selective mutism. He showed no pathological symptoms such as delusions, hallucinations, anxiety, or depression. Since he was 13 years old, he had spoken quietly or whispered, only to his mother, older sisters, and a few friends with whom he was willing to communicate; he spoke only a few words to others. According to his developmental history taken from his mother and sisters, he had been isolated, with only a few friendships since kindergarten, but his ability to speak and his intelli-

gence were not problematic. He had shown very little obvious affection to others, and his speech intonation had been flat for 20 years. He was rigid in his thinking and showed sensitivity to both sound and light.

We diagnosed the patient having with ASD according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition, based on his score of 28 points on the Autism Questionnaire, and on the result of the Autism Diagnostic Interview-Revised. In his present state, the patient's score on a Parent-Interview ASD Rating Scale-Text Revision conducted by H.T. was 22 points. After a discussion with his family and his physician (S.S.) about the risks and benefits of medications, the patient consented to treatment with an SSRI (fluvoxamine, which we selected based on literature reviews [1-4] of the uses of SSRIs for treating ASD), in conjunction with an explanation to him and his family of his mutism from a psychological point of view, and also to his family what attitude they should take to him in daily life. The patient began taking fluvoxamine (75mg/day). However, after 6 weeks of this treatment, there was no change in his symptoms and some adverse effects occurred (nausea and lethargy) while the patient was taking up to 150 mg of fluvoxamine per day. He had previously been treated with sertraline, risperidone, and benzodiazepines, but all of the medications were changed to another medication due mainly to adverse effects.

We then changed the patient's medication from the SSRI fluvoxamine to ARI (3 mg/day) based on prior reports [10, 11]. The patient showed no adverse effects after this change. He gradually began to talk to others, and at 1 month after starting the ARI he reported feeling relaxed although he did not show any changes in his expression of affection. We carefully and gradually increased the ARI dose to 12 mg/day for 8 weeks while monitoring the possible changes in his symptoms and side effects, as there has been a lack of data about the efficacy and adverse effects of ARI for treating mutism in an adult with ASD [10]. At that time, the patient talked about getting a job, and at approx. 1 year after starting the treatment with ARI, he began to work in a factory. He declined further psychiatric follow-up.

Discussion

To the best of our knowledge, this is the first report of an adult with ASD with a communication disability that was improved by ARI treatment. Although the diagnosis of ASD in adults is difficult [1], our patient's diagnosis of ASD was apparent after his long-term history was obtained from his family and the diagnosis of schizophrenia was carefully considered and excluded. His symptom of selective mutism was considered a partial symptom of ASD.

Some reports [3, 4] have described the efficacy of SSRIs for mutism related to social anxiety. As a treatment for ASD, such medications should be combined with patient/family education and/or psychosocial intervention [3]; however, the mutism has often failed to show improvement with SSRI treatment, and particularly in Japan, the psychosocial interventions for patients with ASD cannot be conducted due to healthcare facilities limitations. In previous studies [3-7], alterations of neurotransmitters have been demonstrated in ASD patients including lower gamma-aminobutyric acid (GABA) levels, higher glutamate levels, hyperserotonemia, and increased dopamine turnover. In particular, social disabilities in ASD patients were revealed to be related to abnormalities in both the glutamate [3, 7, 8] and dopamine systems [4-7].

ARI is a 5HT_{2A} antagonist as well as a partial agonist at D₂ receptors and a 5HT_{1A} partial agonist [9]. ARI has a protective effect against the toxicity of glutamate [9], and it regulates many neurotransmitters that are related to problematic behaviors in ASD patients such as our patient's mutism, which might have arisen due to the patient's dysfunctions of communication disability, social integration, and stereotyping [5-7]. It has been reported that the treatment of ASD patients with ARI led to improvements in the patients' social withdrawal, social interaction, and problems communicating with others [5, 10, 11]. In a laboratory study [12], ARI improved deficits in phencyclidine-induced social interaction in rats.

The use of ARI to treat depression and anxiety along with a 5HT_{1A} partial agonist might improve problems with communication or sociability [10]. Although the efficacy of ARI treatment for mutism in our patient's case may have been mediated by decreases in both depressive and anxious feelings,

he denied feeling depression or anxiety without any underlying reason; thus, the mutism may have been improved by another mechanism in his case.

Vahabzadeh *et al.* [10] point out that there has been a lack of research on the use of ARI in adults with ASD. The present report of the successful treatment of a case involving social interaction in an adult with ASD is therefore very important. Further investigations and evaluations are needed to elucidate the risks and benefits of treating social problems such as selective mutism with ARI.

CONFLICTS OF INTEREST

Disclosure Statement: There were no conflicts of interest.

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