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A Catatonic Schizophrenia Case Treated Effectively with Aripiprazole

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ÖZET:

Katatonik şizofreni tanılı bir olgunun aripiprazol ile etkin tedavisi

Katatonik şizofreni şizofreninin sık rastlanılmayan bir alt tipi olup; katalepsi veya stupor, istemli hareketlerde postür alma, aşırı negativizim, mutizm, manyerizm, ekolali ve ekopraksi gibi sterotipik hareketler şeklinde klinik belirtiler gösterir. Atipik antipsikotikler, benzodiazepinler, EKT ve NMDA antagonistlerinin katatonik şizofreninin tedavisinde etkili olduğu bildirilse de, halen katatonik şizofreninin etkin tedavisi hakkındaki bilgiler yetersizdir. Bu yazıda, kısa bir sürede aripipirazol ile etkin şekilde tedavi edilen katatonik şizofreni tanılı bir olgu sunulmuştur.

Anahtar sözcükler: Katatonik şizofreni, aripipirazol, tedavi

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ABSTRACT:

A catatonic schizophrenia case treated effectively with aripiprazole

The catatonic schizophrenia is an uncommon sub-type of schizophrenia, which demonstrates clinical signs such as catalepsy or stupor, posturing of voluntary movements, excessive negativism, mutism, mannerism, stereotypical movements such as echolalia and echopraxia. Atypical antipsychotics, benzodiazepines, ECT, and NMDA antagonists are reported to be effective in treatment of catatonic schizophrenia; however knowledge about the effective treatment of catatonic schizophrenia is still limited. In the present article, we have reported the case of a patient diagnosed with catatonic schizophrenia who was treated effectively with aripiprazole in a short period of time.

Key words: Catatonic schizophrenia, aripiprazole, treatment

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INTRODUCTION

Catatonic schizophrenia affects approximately 10% of patients with schizophrenia. It is characterized by negative symptoms such as mutism, immobility or posturing, and stupor (1). Because of the small of percentage of catatonic schizophrenia in comparison with other subtypes, there is still no established treatment strategy for it. Published studies to date indicate variable clinical success with benzodiazepines (2,3), ECT, and NMDA antagonists (4-6). Antipsychotics, particularly conventional antipsychotics, are considered to cause worsening of catatonia, likely due to the dopaminergic blockade. However, several atypical antipsychotics such as clozapine, risperidone, olanzapine, ziprasidone and aripiprazole have been reported to be effective in the treatment of catatonic schizophrenia as a mono-therapy or a combination (7). To our knowledge, there are no studies in which aripiprazole has been reported to be effective in the treatment of catatonic schizophrenia in Turkey. In the present study, we have described a patient with catatonic schizophrenia who responded to treatment with aripiprazole.

CASE REPORT

A-29-year-old man was admitted to our outpatient clinic with complaints of inability to speak, immobility, decreased appetite and hygiene

and inability to interact with his environment. His complaints had begun one month previous to his admission. He had been diagnosed with schizophrenia for 8 years and he had been treated with various antipsychotics such as olanzapine, quetiapine and risperidone. However, he had not taken any antipsychotic treatment at least for one year. Brain magnetic resonance imaging (MRI), electroencephalography (EEG), blood chemistry, a complete blood count, and thyroid functions were all normal. During the psychiatric examination, blunted affect, catalepsy, waxy flexibility, extreme negativism, mutism and bizarre posturing were noted. On physical assessment, blood pressure, body temperature and pulse rate were in the normal range, and there was rigidity of both arms and legs. The patient was seen by the neurology department to investigate the differential diagnoses of catatonic schizophrenia such as akinetic Parkinson's disease and malignant hyperthermia; the neurological assessment revealed was unremarkable. He was diagnosed with catatonic schizophrenia according to the DSM-IV-TR (8). He was hospitalized and aripiprazole 5 mg/day treatment was started; on the fifth day, the dosage of aripiprazole was increased to 10 mg/day. Within the first week of the treatment, the blunted affect, catalepsy, waxy flexibility, extreme negativism, mutism and bizarre posturing were partially resolved. In the second week, the dosage of aripiprazole was increased to 15 mg/day. By the third week, the symptoms of catatonic schizophrenia had completely resolved, and the patient could interact with his environment normally. He was discharged by the fourth week on aripiprazole 15 mg/day and scheduled for an outpatient clinic follow up. The patient was assessed after one month at the outpatient clinic; he had been taking treatment regularly, and was asymptomatic in reference to the symptomatology of catatonic schizophrenia.

DISCUSSION

The major area of interest in the neurobiology of catatonic schizophrenia has been focused on dopamine. Dopamine is the major neurotransmitter in the frontal circuitry, particularly in the basal ganglia. Research on a dopamine metabolite, homovalinic acid, in the plasma of 32 acute catatonic patients demonstrated increased levels, particularly in those catatonic patients responding to lorazepam. These data suggest hyperactivity of the dopaminergic system in catatonia (9). However, the assumption of dopaminergic hyperactivity in catatonia is contradictory to several other findings. First, catatonia can be induced by antipsychotics Second, catalepsy has been known to be associated with dopamine depleting drugs (such as methyltyrosine) and dopamine antagonists (such as oxiperomide). Finally, successful treatments with ECT (seizures increase brain levels of dopamine) and dopamine enhancing drugs (bromocriptine, amantadine) have been reported to be effective in the treatment of catatonic schizophrenia (6).

First generation antipsychotics have been widely used in the treatment of catatonia because of the excessive motor activity that may accompany catatonia, and because of the historical consideration of catatonia as a subtype of schizophrenia. However, several authors have concluded that classical antipsychotics may aggravate non-malignant and malignant catatonia. Atypical antipsychotics are less likely to cause extrapyramidal side effects and movement disorders than classical antipsychotics (10) and they are frequently prescribed in disorders that can be associated with catatonia, notably in bipolar disorder and schizophrenia.

In the relevant literature, atypical antipsychotics such as clozapine, risperidone and olanzapine were reported to be effective in the treatment of catatonic schizophrenia (7). Aripiprazole is a relatively novel atypical antipsychotic with potent partial dopamine receptor D2 and D3 agonist activity (11), serotonergic 5-hydroxytryptamine (5-HT)2A antagonist activity and 5-HT1A partial agonist activity. In addition, aripiprazole has minimal affinity for adrenergic receptors, H1 histamine receptors and muscarinic cholinergic receptors (12). Aripiprazole has been shown to be efficacious and well-tolerated for the treatment of schizophrenia in short-term (4-6 weeks) and

longer-term (26 and 52 weeks) clinical trials (13). More recently than other atypical antipsychotics, aripiprazole has been reported to be effective for the treatment of catatonic schizophrenia. In the literature, firstly Cummings and Noordsy reported a case with catatonic schizophrenia that was treated with a lorazepam and aripiprazole combination (14). Also, it has been reported that an ECT-aripiprazole combination therapy has an excellent safety profile and therapeutic efficacy (15,16). In these case reports, aripiprazole was a part of a combination therapy unlike our case report. Kirino reported a case with catatonic schizophrenia that was treated effectively with aripiprazole 18 mg/day (17). In this case, resolution of symptoms of catatonic schizophrenia was reported to take 5 months. Most recently, Sasaki et al. reported a case with catatonic schizophrenia which was treated with low dose aripiprazole (18). In this report, aripiprazole 3 mg/day was reported to be effective for catatonic symptoms such as extreme negativism and stupor within two weeks. Our case has similarities with the one mentioned in Sasaki et al.'s report, in that our patient also improved significantly with aripiprazole mono-therapy in a short period of time. However, our case also had catalepsy, waxy flexibility, mutism and bizarre posturing; thus it can be said that the symptomatology of our patient was more difficult to treat. The mechanisms underlying the effects of aripiprazole in this case remained unclear. Because of the hypodopaminergic theory of catatonic schizophrenia, we argue that the mechanism of action in our case might be due to the dopaminergic agonism of aripiprazole (19,20).

In conclusion, to our knowledge, the present case study is the first to demonstrate the beneficial effects of aripiprazole in a patient with catatonic schizophrenia in Turkey. Aripiprazole might be an alternative treatment choice in catatonic schizophrenia without serious side effects. Nonetheless, further detailed, double-blind studies should clarify the potential use of aripiprazole in the treatment of catatonic schizophrenia.

References:

1. Taylor MA, Fink M. Catatonia in psychiatric classification: a home of its own. Am J Psychiatry 2003;160(7):1233-41.
2. Huang TL. Lorazepam and diazepam rapidly relieve catatonic signs in patients with schizophrenia. Psychiatry Clin Neurosci 2005;59(1):52-5.
3. Lee JW, Schwartz DL, Hallmayer J. Catatonia in a psychiatric intensive care facility; incidence and response to benzodiazepines. Ann Clin Psychiatry 2000;12(1):89-96.
4. Thomas C, Carroll BT, Maley RT, Jayanti K, Koduri A. Memantine in catatonic schizophrenia. Am J Psychiatry 2005;162(3):656.
5. Carpenter SS, Hatchett AD, Fuller MA. Catatonic schizophrenia and the use of memantine. Ann Pharmacother 2006;40(2):344-6.
6. Fink M, Taylor MA. Catatonia. A clinicians guide to diagnosis and treatment. 1st ed. Cambridge: Cambridge University Press; 2003.
7. Van Den Eede F, Van Hecke J, Van Dalfsen A, Van den Bossche B, Cosyns P, Sabbe BG. The use of atypical antipsychotics in the treatment of catatonia. Eur Psychiatry 2005;20(5-6):422-9.
8. American Psychiatric Assosiation Diagnostic and Statistical Manual of Mental Disorders, 4th ed., text revision. Washington DC: American Psychiatric Assosiation; 2000.
9. Northoff G. Catatonia and neuroleptic malignant syndrome: psychopathology and pathophysiology. J Neural Transm 2002;109(12):1453-67.
10. Caroff SN, Mann SC, Campbell EC, Sullivan KA. Movement disorders associated with atypical antipsychotic drugs. J Clin Psychiatry 2002;63(Suppl 4):12-9.
11. Burris KD, Molski TF, Xu C, Ryan E, Tottori K, Kikuchi T, et al. Aripiprazole, a novel antipsychotic, is a high-affinity partial agonist at human dopamine D2 receptors. J Pharmacol Exp Ther 2002;302(1):381-9.
12. Shapiro DA, Renock S, Arrington E, Chiodo LA, Liu LX, Sibley DR, et al. Aripiprazole, a novel atypical antipsychotic drug with a unique and robust pharmacology. Neuropsychopharmacol 2003;28(8):1400-11.
13. Hsieh MH, Lin WW, Chen ST, Chen KC, Chen KP, Chiu NY, et al. A 64-week, multicenter, open-label study of aripiprazole effectiveness in the management of patients with schizophrenia or schizoaffective disorder in a general psychiatric outpatient setting. Ann Gen Psychiatry 2010;9:35.
14. Cummings TS, Noordsy DL. Treatment of catatonic schizophrenia with lorazepam and aripiprazole. Schizophr Res 2009;112(1-3):194-5.
15. Lopez-Garcia P, Chiclana C, Gonzalez R. Combined use of ECT with aripiprazole. World J Biol Psychiatry 2009;10(4 Pt 3):942-3.

16. Masdrakis VG, Oulis P, Zervas IM, Karakatsanis NA, Kouzoupis AV, Karapoulios E, et al. The safety of the electroconvulsive therapy-aripiprazole combination: four case reports. J ECT 2008;24(3):236-8.

17. Kirino E. Prolonged catatonic stupor successfully treated with aripiprazole in an adolescent male with schizophrenia: a case report. Clin Schizophr Relat Psychoses 2010;4(3):185-8.

18. Sasaki T, Hashimoto T, Niitsu T, Kanahara N, Iyo M. Treatment of refractory catatonic schizophrenia with low dose aripiprazole. Ann Gen Psychiatry 2012;11(1):12. [Epub ahead of print]

19. Penland HR, Weder N, Tampi RR. The catatonic dilemma expanded. Ann Gen Psychiatry 2006;5:14.

20. Cetin M. Antidepressants, antipsychotics: Reliability of metaanalyses.Klinik Psikofarmakoloji Bulteni- Bulletin of Clinical Psychopharmacology 2008;18(4):245-50.