Case Report

Treatment resistant severe Aripiprazole induced Oculogyric dystonia treated with electroconvulsive therapy (ECT)

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ABSTRACT

Aripiprazole is the third generation atypical antipsychotic and a dopamine serotonin system stabilizer (DSS) effective against positive and negative symptoms of schizophrenia. It has a low propensity for extrapyramidal side effects, causes minimal weight gain or sedation, produces no elevation in serum prolactin levels, and does not cause prolongation of QTc interval. We present here a case report is of a patient suffering from schizophrenia that developed oculogyric dystonia with aripiprazole at a dose of 15mg per day. The dystonia did not improve with trihexyphenydyl or promethazine administration. Naranjo's assessment revealed probable aripiprazole induced phenomenon. The patient was the administered electroconvulsive therapy and showed a full improvement. One must be careful even when using drugs like Aripiprazole as although rare they do have a propensity to cause extrapyramidal reactions once in a while.

Key words: Aripiprazole, oculogyric dystonia, electroconvulsive therapy.

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INTRODUCTION

Aripiprazole is the third generation atypical antipsychotic and a dopamine serotonin system stabilizer (DSS) that is effective against positive and negative symptoms in schizophrenia [1]. It has a low propensity for extrapyramidal side effects as per literature reviews [2]. It is partial agonist at D2 and 5HT1A and blocks 5HT2A receptors [3]. The most common adverse effects of the drug seen in clinical practice are fatigue, insomnia and headache [4]. It has the least propensity to cause extrapyramidal reactions and dyskinesias or tremors [5]. We present here a case report is of a patient suffering from schizophrenia that developed oculogyric dystonia with aripiprazole at a dose of 15mg per day. The dystonia did not improve with trihexyphenydyl or promethazine administration. Naranjo's assessment [6] revealed probable aripiprazole induced phenomenon. The patient was the administered electroconvulsive therapy and showed a full improvement.

CASE REPORT

A 45 year old female, who was well a year before presentation, suffered from a first episode of Major Depressive Disorder (MDD). The patient was treated with two unsuccessful attempts of antidepressant

therapy of two different classes of drugs viz. Escitalopram (20mg/day) and Imipramine (100mg/day) for ample durations (4 weeks each). Following this the patient's treatment was augmented with low dose antipsychotic therapy in the form of Aripiprazole which was started at 5mg per day and then increased to 15mg per day at increments of 5mg per week. The patient reported an 80% improvement in her depression and was doing well on a combination of Aripiprazole 15mg per day and Escitalopram 20mg per day. The patient while improving developed a new problem the led to a dystonic reaction in the form of rolling of the eyeballs without loss of consciousness and in the absence of any other movements. The patient was started on Promethazine 25 mg twice a day was added in view of the same. She was also started on Trihexyphenydyl 2mg twice a day. A week later her depression remained improved by 85% but the intensity, frequency and duration of oculogyric dystonia remained the same though a 10% improvement was noted. It was decided to withdraw Aripiprazole as the symptoms started as soon as the dose of the drug was increased to 15mg per day. No such symptoms existed when the drug was at 10mg per day. The symptoms persisted even after a reduction in the dose of Aripiprazole and the depression started to worsen with a reduction in the dose of the drug. An ophthalmology opinion was also sought who suggested possibility of ocular dystonia and advised same treatment. The complaints of upward rolling of eye balls were sudden, unexpected, occurring five to seven times a day and were difficult to bring back to original position by the patient. It would persist for an hour approximately and resolve on its own. It would cause significant distress to the patient and this would add to the woes caused by slight worsening of her depression after withdrawal of Aripiprazole. She also started developing passive death wishes due to the side effects she experienced.

As patient was actively depressed, and the dystonia was not responding to any of the regular treatments and withdrawal of Aripiprazole an option of electroconvulsive therapy as a treatment for both problems was given to patient and she and her husband consented for the same. Medical fitness was taken and modified ECT under general anaesthesia was administered. The patient received a fixed course of 8 ECTs, administered during the morning, after an overnight fast. ECT was administered using a constant current, bidirectional, brief-pulse ECT device (Medicaid, Chandigarh). This device delivers a stimulus that is made up of bidirectional pulses that are 0.8A in amplitude, 1.5ms in width, and 62.5 Hz in frequency. Stimulus duration was the only variable that was adjusted to deliver the desired electrical dose. All treatments were administered under propofol anesthesia (0.75 mg/kg) and were modified using succinylcholine (0.5-0.75 mg/kg). The initial ECT dose was 60 mC and bitemporal electrode placement was used. In case the patient failed to experience visible convulsions for at least 15sec, the dose was increased in 60 mC steps to a maximum of 2 stimulations per session. All ECTs were given alternate day. The patient showed a complete resolution of the dystonia after the 2nd ECT and showed a 95% improvement in depression after 8 ECTs. The patient is following up and is maintained on Escitalopram 20mg per day.

DISCUSSION

Few case reports of aripiprazole induced acute dystonia exist which include neck extension, torticollis, rigidity, and tongue movements [7-8]. The patient in our case was on Aripiprazole which has the least propensity to cause dystonia. The dystonia was reported as soon as the dose of the drug was raised from 10mg to 15mg. In our case, an assessment using Naranjo's algorithm was made and a score of +6 was obtained that indicates a probable role of Aripiprazole in the causation of the dystonia. The oculogyric dystonia in our case did not respond to medications at high doses and the patients depression worsened. Hence a course of ECT was suggested. ECT has been used with success in the management of dystonias and neuroleptic malignant syndrome as well as certain movement disorders in case series and case reports [9-10]. It is prudent that clinicians be vary that even drugs like Aripiprazole that may not generally cause dystonia do have the ability to do so in some patients. It is also important that clinicians consider ECT as a viable alternative to manage dystonia when it fails to show a response to medication. This case report documents the efficacy of ECT in this regard.

REFERENCES

1. 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;302:381–9.
2. Gupta S, Masand P. Aripiprazole: review of its pharmacology and therapeutic use in psychiatric disorders. Ann Clin Psychiatry 2004;16(3):155-66.
3. Sarin A, Nagpal J, Bohra NK, Jiloha RC, Rao GP, Sharma SK, et al. Open labeled, randomized, switch over study of two fixed doses (10/15 mg) of aripiprazole: To evaluate its safety and efficacy in Indian patients of schizophrenia. Indian J Psychiatry 2004;46:64–71.
4. Sparshatt A, Taylor D, Patel MX, Kapur S. A systematic review of aripiprazole—dose, plasma concentration, receptor occupancy, and response: implications for therapeutic drug monitoring. J Clin Psychiatry 2010;71(11):1447-56.
5. Stip E, Tourjman V. Aripiprazole in schizophrenia and schizoaffective disorder: a review. Clin Ther 2010;32:S3-20.
6. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, Roberts EA, Janecek E, Domecq C, Greenblatt DJ. A method for estimating the probability of adverse drug reactions. Clin Pharmacol Therapeut 1981;30(2):239-45.
7. Desarkar P, Thakur A, Sinha VK. Aripiprazole induced acute dystonia. Am J Psychiatry 2006;163:1112–3.
8. Sanghadia M, Pinninti NR. Aripiprazole associated acute dystonia. J Neuropsychiatry Clin Neurosci 2007;19:89–90.
9. Strawn JR, Keck Jr, MD PE, Caroff SN. Neuroleptic malignant syndrome. Am J Psychiatry 2007;164(6):870-6.
10. Ozer F, Meral H, Aydin B, Hanoglu L, Aydemir T, Oral T. Electroconvulsive therapy in drug-induced psychiatric states and neuroleptic malignant syndrome. J ECT 2005;21(2):125-7.

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