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Case Report

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Abstract: Aripiprazole is an atypical 2nd generation antipsychotic drug which has partial agonistic and antagonistic actions at dopamine receptors in brain. Here we present a 32 year old female presenting with recurrent puerperal psychosis who showed exacerbation of psychotic symptoms when gradually increasing dose of Aripiprazole was added to first generation antipsychotic Haloperidol. Improvement was noted on Aripiprazole discontinuation. Dopamine Super sensitivity Psychosis (DSP) due to partial agonistic action in hypo dopaminergic state is postulated to be a possible mechanism leading to the worsening of psychosis in this patient. An up-regulation of Dopamine D2 receptor (DRD2) caused by long-term treatment with antipsychotics may contribute to DSP. In our case the patient could have been in a state of DSP following use of injectable and oral Haloperidol (a potent 1st generation antipsychotic). Thus clinicians need to be vigilant and continue monitoring the patients on Aripiprazole therapy especially when it is added to a potent antipsychotic drug.

Keywords: Aripiprazole, psychosis, exacerbation, Dopamine Super sensitivity psychosis, partial agonist

INTRODUCTION

Aripiprazole is a second generation antipsychotic drug which acts as partial agonist and antagonist on dopamine receptors in brain .However some cases of psychosis might show worsening or exacerbation when it is used as monotherapy or added to another antipsychotic agent. In this report a case of puerperal psychosis which worsened with Aripiprazole therapy and improved after discontinuation is being discussed.

CASE REPORT

A 32year-old married female of high socioeconomic background admitted in a psychiatry department of a nursing home with an acute onset illness, characterized by restlessness, mood swings, diminished sleep, occasional irrelevant talk, delusion of persecution, reference and visual and olfactory hallucinations on the third day of delivery of her second child by LUCS. Antenatal and delivery history was uneventful. There was no significant organic illness. All investigations including CT-Scan of brain were normal. She was clinically diagnosed by the psychiatrist as puerperal psychosis according to DSM -IV diagnostic criteria [1]. (Scale scoring: Clinical Global Impressions Severity Scale CGIS-6 [2], Positive and Negative Symptom Scale PANSS-150[3] and Brief Psychiatric Rating Scale BPRS-90)[4]. There was positive past history of two episodes of mental illness.

The first was an episode of depressive psychosis after a viral infection ten years back which was before her marriage. The second episode was that of a puerperal psychosis following her first child birth seven years back. The latter episode which occurred one week post-partum was similar to her current problems though of lesser intensity and severity.She used to have mood fluctuations, restlessness, insomnia and fleeting paranoid ideations but there was no history of violence or harm to self and baby.

She was prescribed Escitalopram (5mg OD) and Aripiprazole 15 mg in the first episode. She continued her medicines for I year and then

discontinued abruptly and remained symptom free till her first child birth 3 years later. In the second episode 3 years later (4 days postpartum) she was initially treated with Aripiprazole15mg daily followed by gradual tapering to 10mg OD. She continued medication for three months and remained symptom free thereafter even after discontinuing medication by herself. Hospitalization was not required.

In the current episode (3 days postpartum) the mother was initially admitted due to her excessive psychotic behavior (CGIS-6, PANSS-140, and BPRS-90). She was given injection Haloperidol twice daily for five days along with injection Lorazepam on S.O.S. basis due to her extreme restlessness and violence. Her agitation diminished but she had persistent mood lability, tearfulness and occasional auditory hallucinations. She was then switched to oral Haloperidol 15 mg, trihexyphenidyl 4mgalong with benzodiazepine (clonazepam1.5mg). Aripiprazole 15mgwas added to the above regime2weeks later during discharge of the patient due to partial response to Haloperidol. Her aggression and hallucinatory behavior had diminished but crying spells and inadequate care of self and baby was persisting. She was instructed to increase dose of Aripiprazole to 30 mg after 10days.

In the follow up visit 2 weeks later the patient showed worsening of psychotic symptoms which reportedly occurred around 12 days after discharge. The patient became extremely fearful, wandered around naked, tried harming the baby and showed regressive behavior (CGIS-6, PANSS-130, and BPRS-80).She was readmitted and the dose of Aripiprazole tapered and stopped. Olanzapine 10mg added toHaloperidol10 mg with injection lorazepam 4mg on s.o.s basis. Over the next 14 days she improved significantly (CGIS-2, PANSS-80, and BPRS-30). Haloperidol was discontinued and for the last 2 months, the mother is maintaining well on Olanzapine 10 mg. She has resumed her normal activity with adequate care of self and baby. The child was not breast fed due to inadequacy of breast milk in the current episode.

The patient had a positive family history of bipolar disorder among first and second degree relatives and there is no history of significant physical illness, loss of consciousness, seizure, substance abuse or any significant psycho-social stressor except her postpartum condition. Causality assessment for adverse drug reaction (ADR) byWHO-UMC [5] established a probable causality between the drug and the adverse drug reaction.

DISCUSSION

Aripiprazole is considered a unique second generation antipsychotic medication owing to its mechanism of action on dopamine receptors. It acts as a functional antagonist or partial agonist at dopamine and serotonin receptors depending upon the level of the relevant neurotransmitter in the immediate environment. It improves positive symptoms by decreasing dopamine levels in mesolimbic tract and improves cognitive and negative symptoms in mesocortical tract.Hence it is termed as Dopamine-Serotonin System Stabilizer (DSS) or dual dopamine stabilizer. It is theoretically conceptualized to be as efficacious as other second generation antipsychotics like olanzapine and risperidone but with fewer propensities to cause metabolic syndrome and hyperprolactinemia.

Paradoxically though, aripiprazole has been reported to worsen psychosis in some cases similar to the above reported case. It is hypothesized that in hypo dopaminergic state, due use of other potent antipsychotics which have anti dopaminergic effect, aripiprazole acts as dopamine partial agonist and worsens psychosis. This psychotic worsening could be conceptualized as dopamine super sensitivity psychosis [6] which is a clinically vulnerable state. An up-regulation of Dopamine D2 receptor (DRD2) caused by long-term treatment with antipsychotics may contribute to DSP [7]. Several Aripiprazole trials also suggest that a switching method of concomitant ARI initiation and tapering off of the current medication could cause a relapse of the psychosis [8, 9] due to DSP. Significantly higher dosage of prior antipsychotics also predicted DSP with ARI [10]. In our case the patient could have been in a state of DSP following use of injectable and oral Haloperidol (a potent 1st generation antipsychotic).Similar exacerbation of psychosis following ARI addition to Haloperidol has been reported earlier with improvement after ARI discontinuation [11]. There are also past reports of psychotic worsening on addition of Aripiprazole to atypical antipsychotics and improvement after discontinuation of the same [12] as also psychotic exacerbation with Aripiprazole monotherapy in an adolescent [13]. In the latter case the authors noted worsening on increase of aripiprazole dose and improvement after termination of aripiprazole. Our patient too improved after ARI discontinuation.

CONCLUSION

Puerperal psychosis is a condition which warrants immediate therapeutic intervention to prevent any harmful consequences for mother and baby. In the above case we have discussed the possible mechanisms of worsening of psychosis on increasing dose of aripiprazole. Thus clinicians need to be vigilant in monitoring the patients on Aripiprazole, especially after an increase in the dose of this medication in any psychotic state which needs urgent management.

REFERENCES

1. American Psychiatric Association. DSM-IV: Diagn ostic and Statistical Manual of Mental Disorders, 4th edn, American Psychiatric Association, Washingto n DC. 1994; 717-718.
2. Guy W: ECDEU Assessment Manual for Psychopharmacology-Revised (DHEW Publ No ADM 76-338). Rockville, MD, U.S. Department of Health , Education, and Welfare , Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, NIMH Psychopharmacology Research Branch, Division of Extramural Research Program 1976 ; pp218-222
3. Kay SR, Fiszben A, Opler LA. "The positive and negative syndrome scale (PANSS) for schizophrenia". Schizophrenia Bull 1987; 13(2):261-76.
4. Overall JE, Gorham DR. The brief psychiatric rating scale. Psychological Reports 1962; 10: 799-812.
5. www.who-umc.org.
6. Chouinard G. Severe cases of neuroleptic –induced supersensitivity psychosis .Diagnostic criteria for the disorder and its treatment. Schizophr Res 1991; Jul-Aug;5(1):21-33.
7. Iyo M, Tadokoro S, Kanahara N, Hashimoto T, Niitsu T, Watanabe H, Hashimoto K. Optimal extent of dopamine D2 receptor occupancy by antipsychotics for treatment of dopamine supersensitivity psychosis and late-onset psychosis. Journal of clinical psychopharmacology. 2013 Jun 1;33(3):398-404.
8. Lin HC, Chong MY, Lee Y, Yeh WC, Lin PY. Switching of antipsychotics to aripiprazole in the treatment of schizophrenia. Chang Gung Med J 2009 Jul-Aug;32(4): 409-16.
9. Pae CU. Supersensitivity psychosis and aripiprazole tapering. ProgNeuropsychopharmacolBiol Psychiatry 2009 Jun 15; 33(4):748-9.
10. Takase M, Kanahara N, Oda Y, Kimura H, Watanabe H, Iyo M. Dopamine supersensitivity psychosis and dopamine partial agonist: a retrospective survey of failure of switching to aripiprazole in schizophrenia. Journal of Psychopharmacology. 2015 Apr;29(4):383-9.
11. Grover S, Sharan P, Gupta N. Aripiprazole worsens Psychosis: A Case Report. Prim Care Companion. J Clin Psychiatry 2006; 8(6):380-381.
12. Ramaswamy S, Vijay D, William M, Sattar SP, Praveen F, Petty F. Aripiprazole possibly worsens psychosis. International clinical psychopharmacology. 2004 Jan 1;19(1):45-8.
13. Panigrahi M, Padhy SM, Rathi R. Aripiprazole monotherapy in an adolescent worsens psychosis. Indian Journal of Pharmacology 2013; 45(2): 195-196.