



Letter to the Editor

Aripiprazole induced leucopenia and neutropenia – case series



Dear Editor,

Leucopenia and agranulocytosis are life threatening side effects of atypical anti-psychotics, but it is a rare phenomenon. Leucopenia associated with aripiprazole is a rare entity and is reported in only few case reports (Qureshi and Rubin, 2008; Majeed and Ali, 2017). Here we present a case series of patients who developed neutropenia on long-term aripiprazole therapy.

- 1) Mrs. A was a 34-year-old woman with schizophrenia, well controlled with clozapine changed to risperidone due to tiredness and weight gain. She tolerated risperidone, but due to excessive weight gain within 6 months, risperidone was changed to aripiprazole 15mg per day. Base line Complete Blood Count (CBC), total leucocyte count 8700 cells/ μ L and Absolute Neutrophil Count (ANC) 5133 cells/ μ L was normal. Aripiprazole was continued for 1 year and during the annual health check-up she was found to have leucopenia (3000 cells/ μ L) and neutropenia (ANC 1190 cells/ μ L). Aripiprazole was stopped immediately and risperidone restarted. CBC and ANC were rechecked after 1 month which was within normal limits.
- 2) Mr. B was a 39-year-old male with schizophrenia, well controlled with olanzapine but developed weight gain and hence changed to aripiprazole 15mg per day. Baseline CBC and ANC was within normal limits but developed neutropenia (N 23%) with a low ANC (1220 cells/ μ L) after 9 months of aripiprazole treatment. Aripiprazole was changed to risperidone and CBC and ANC reviewed after 1 month was within normal limits.
- 3) Mr. C was a 56-year-old male with schizophrenia with occasional relapses and fatigue on olanzapine therapy. Hence medicine was changed to aripiprazole 15mg per day. Base line CBC and ANC was within normal limits. He developed leucopenia (3890 cells/ μ L) and neutropenia (ANC 1600 cells/ μ L) 12 months after aripiprazole treatment. Aripiprazole was immediately changed to risperidone. Leucocyte count and ANC became normal after 1 month of withdrawal of aripiprazole.
- 4) Mr. D was a 49-year-old male with schizophrenia. He was maintaining well with risperidone but developed weight gain and hence changed to aripiprazole 15mg per day. Patient was accidentally found to have leucopenia (3100 cells/ μ L) and neutropenia (ANC-1120 cells/ μ L) 6 months later during his annual health check-up.

In all these cases, there was no history of exposure to any drugs that

can cause bone marrow suppression or any clinical condition that causes leucopenia. In the entire series baseline CBC and ANC were done to rule out any pre-existing neutropenia. The exact pathophysiology of neutropenia induced by aripiprazole is not known. It is proposed that direct toxic injury, immune reactions leads to the destruction of bone marrow and peripherally circulating blood corpuscles and leads to leucopenia (Stübner et al., 2004). Benign ethnic neutropenia is a possibility for low ANC in patients taking aripiprazole especially of African or Middle East descent (Majeed and Ali, 2017). Being young and low baseline TLC are other risk factors for leucopenia (Qureshi and Rubin, 2008). None of these risk factors were present in the index series and neutropenia developed few months after starting aripiprazole. To the best of our knowledge this is the first case series showing aripiprazole as a single agent causing leucopenia and neutropenia.

Lim et al. (2013) described aripiprazole induced neutropenia in a patient who had prior episodes of leucopenia with other atypical anti-psychotics (Lim et al., 2013). One study even recommends aripiprazole as a remedy for antipsychotic induced neutropenia (Yalcin et al., 2008). Although leucopenia is a possible rare serious adverse reaction of aripiprazole, this case series shows the need for careful monitoring of TLC and ANC similar to clozapine monitoring strategy. Moreover, aripiprazole may not be a better choice in patients who has already developed leucopenia or neutropenia with other antipsychotics.

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Declaration of Competing Interest

There are no conflicts of interest.

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