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CASE REPORT

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Clozapine Induced Agranulocytosis Risk of Re-Exposure

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BACKGROUND INFORMATION

Clozapine can cause life threatening agranulocytosis in 0.8 percent of the patients taking this medication either for drug resistant schizophrenia or schizoaffective disorder. The most prudent action for such patients is to discontinue Clozapine right away and report the patient to the National Clozapine Registry to avoid re-exposure. We present the case of a patient with Schizoaffective Disorder, bipolar type who had developed Clozapine induced agranulocytosis which was not reported to the National Clozapine Registry and was at risk of re-exposure during the most recent hospitalization.

CASE PRESENTATION

Mr. A is a 51 year old Latin American male with history of schizoaffective disorder, bipolar type being treated with various antipsychotics in the past. He had been non compliant with his medications although it was indicated that he was discharged a year ago on Clozapine. During consideration for restarting him on Clozapine, it was discovered from the records of a different hospital that he was admitted a year ago for febrile neutropenia while on Clozapine and was not reported to the National Clozapine Registry. At the time of hospitalization, the patient had a W.B.C count of 2,100/ mm^3 (normal WBC count range=4,000–12,000/mm^3), his neutrophil count was 6% (normal neutrophil count range=42% to 75%) and bands were 1% (normal bands =0%-5%).

Mr. A was started on cefepime, vancomycin and fluconazole. The patient's cultures of urine, sputum and blood for bacterial, fungal and Acid-Fast were negative. He was treated with Neupogen, a granulocyte colony stimulating factor (G-CSF). The patient was discharged from the hospital after becoming afebrile and increase in the W.B.C count, neutrophil count and bands. He was discharged home after his good response to discontinuation of Clozapine with the diagnosis of febrile neutropenia secondary to drugs.

DISCUSSION

Agranulocytosis is defined as an absolute neutrophil count (ANC) of less than 500/mm3. Because of the risk for developing agranulocytosis with Clozapine use, which may last over a certain period of time, patients must have a blood sample drawn for a WBC count before initiation of treatment with the drug and must have subsequent WBC counts done at least weekly for the first 6 months of treatment. If WBC counts stay acceptable (WBC =3000/mm3, ANC =1500/mm3) during this period, WBC counts may be monitored every other week thereafter. After the discontinuation of Clozapine, weekly WBC counts should be continued for an additional 4 weeks. Treatment should not be started if the WBC count is less than 3500/mm3, or if the patient has a history of a myeloproliferative disorder, Clozapine induced agranulocytosis or granulocytopenia. Patients should be advised to report the appearance of lethargy, weakness, fever, sore throat or any other signs of infection to the treating physician immediately. In the case patient, Neupogen activated the production of white blood cells in the bone marrow for 5 days during his hospitalization. Nevertheless, probably the most effective treatment was the discontinuation of Clozapine.

The National Clozapine Registry was developed in 1990 in response to a FDA mandate to ensure the safety of patients treated with Clozapine, which has potentially dangerous side effects, if not strictly monitored. National Clozapine Registry reduces both morbidity and mortality in patients being treated with Clozapine. It is therefore important to report any adverse reactions or abnormal lab values while the patient is on Clozapine to the National Clozapine Registry to prevent future re-exposure. This case was reported to the National Clozapine Registry with the necessary paperwork after an extensive data collection.

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