Idiopathic Thrombocytopenia Side-Effect of Lithium in a Patient with Schizophrenia

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ABSTRACT:
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There are numerous data on the effects of lithium on the hematopoietic system, especially in aplastic anemia and thrombocytopenia. This case shows a dual effect of therapy with lithium carbonate in a 49-year-old patient with schizophrenic psychosis and idiopathic thrombocytopenia. Lithium was introduced as a therapy firstly in order to augment the existing antipsychotic therapy, and secondly as potential protection against hematopoiesis in order to increase the number of thrombocytes after idiopathic thrombocytopenia had been diagnosed.

Key words: Lithium, psychosis, idiopathic thrombocytopenia

INTRODUCTION

Lithium is effective in the treatment of acute mania and the depressive episodes of bipolar disorder. Long-term treatment with lithium reduces suicidal behavior and incidence of suicide. However, lithium can also be used for the augmentation of therapy used for the treatment of schizoaffective psychosis, treatment refractory schizophrenic psychosis with depression symptoms, aggressive behavior and suicidality (4). Also, in the bibliography there are numerous data about the effects of lithium on the hematopoietic system, especially in aplastic anemia and thrombocytopenia.

CASE REPORT

The patient was a female, 49 years old, a mental patient of many years. She has for the past 16 years suffered from paranoid schizophrenic psychosis (F 20.0, as per ICD 10). She was compliant and was using regular psychopharmacotherapy (fluphenazine 5 mg two times daily, clonazepam 0.5 mg two times daily). The patient has been permanently hospitalized in a social institution specializing in the care of chronic psychiatric patients. After a regular blood check, a very low thrombocyte count was observed for the first time (5x10^9 g/l). Physical examination of the skin of the extremities, torso, face and oral mucosae revealed obvious petechial bleeding. For these reasons, the patient was urgently referred to the Internal Medicine Clinic, for additional diagnosis and treatment. During the three weeks of her hospitalization at the Department of Hematology, the patient underwent all necessary diagnostic procedures (sternal puncture, bone marrow biopsy), and was diagnosed with idiopathic thrombocytopenia. During her hospitalization, the thrombocyte count increased to 156x10^9 g/l,
after administration of corticosteroids and thrombocytapheresis. During her stay at the Department of Hematology, there were no episodes of psychotic decompensation, since the patient was receiving high dosages of corticosteroids. In the two weeks following discharge from the hospital, undergoing therapy with prednisone 20 mg every second day, the thrombocyte count rapidly dropped to 25 and then to 15x10⁹ g/l, and at the same time the patient experienced acute psychotic decompensation in the form of the spontaneous production of bizarre, paranoid ideas, psychomotor acceleration, logorrhea, insomnia, racing and dissociated thoughts. Her PANSS score was 92 (Positive scale 26; Negative scale 22; General psychopathology scale 46. Prednisone was discontinued. Keeping in mind the existing diagnosed thrombocytopenia and acutely decompensated schizophrenic psychosis, antipsychotic and benzodiazepine therapies were increased (fluphenazine 5 mg three times daily and clonazepam 1 mg three times daily), but with no significant improvement in the clinical picture and psychotic content persisting.

Based on the above, a significant problem arose in terms of adequate psychopharmacological intervention. The patient was still psychotic at this point and with a very low thrombocyte count.

The problem had several aspects, namely, which available antipsychotic to give her, having in mind her thrombocytopenia. We could not introduce the available antipsychotics (thioridazine, chlorpromazine, clozapine) at that moment because of her hematological disease, since they can also decrease the number of thrombocytes (5). We decided to broaden the current therapy with an antipsychotic and benzodiazepine and to introduce lithium carbonate, as augmentation to the existing therapy (6). According to the examinations performed (electrolytes, kidney ultrasound, EKG, T₃, T₄, TSH), there were no contraindications to introducing lithium. Lithium carbonate is introduced relatively quickly, up to 2400 mg per day, over a period of two weeks. In the first week the plasma level of lithium was 0.36 mmol/l (dose of 1600 mg per day), and in the second week was 0.89 mmol/l (dose of 2400 mg per day). At the beginning of the third week following the introduction of lithium, the patient showed no psychomotor agitation and racing thoughts, had regular sleep, but with dissociated thought pattern and delusional contents persisting but not manifested spontaneously. The PANSS score was 68 (Positive scale 16; Negative scale 16; General psychopathology scale 36). In the fourth week following the introduction of lithium carbonate, the thrombocyte count was 220x10⁹ g/l (7). The patient’s current therapy is fluphenazine 5 mg three times daily, lithium carbonate 300 mg up to 2400 mg per day, clonazepam 1 mg three times daily and additional folic acid and B12.

**DISCUSSION**

This case shows the kind of dilemma a psychiatrist can find him or herself in, when aside from the existing mental condition, a somatic disease is diagnosed that can significantly decrease the potential psychopharmacological reaction at the given moment. Thrombocytopenia in this patient decreased the possibility of introducing other antipsychotics (thioridazine, chlorpromazine, clozapine) because of their side-effects on the bone marrow. Lithium was selected because of its potential protective action on hematopoiesis (8), but also as an augmenter of the current therapy with antipsychotics. The hematoprotective effect of lithium has been proven on different levels; namely, lithium increases levels of the CSF (colony stimulating factor) that affects the proliferation of neutrophil granulocytes, and also increases levels of IL-3, IL-11, thrombopoietin (TPO) and the FLT ligand, which is significant for maturation of megakaryocytes (9).

In conclusion, this case demonstrates the therapeutic efficiency of lithium as an augmenter of antipsychotic therapy in psychotically decompensated chronic psychosis, as well as its efficiency in increasing the thrombocyte count in idiopathic thrombocytopenia (10,11).
References:


