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Leukopenia induced by Paroxetine: A rare case report

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Abstract

Drug induced leukopenia is a rare serious complication of any drug therapy. Paroxetine is a selective serotonin reuptake inhibitor (SSRI), which is used to treat depression, obsessive-compulsive disorder, panic disorder, social anxiety disorder, generalized anxiety disorder, and post-traumatic stress disorder and few cases reported the drug causing leukopenia. We report a case of 53 years-old male who had developed Paroxetine-induced leukopenia. Due to the silent feature of drug-induced leukopenia, it is important to be vigilant toward early signs of leukopenia.

Keywords: Drug induced leukopenia; Paroxetine induced leukopenia

Introduction

Paroxetine is a selective serotonin reuptake inhibitor (SSRI), which is used to treat depression, obsessive-compulsive disorder, panic disorder, social anxiety disorder, generalized anxiety disorder, and post-traumatic stress disorder.

In addition to general SSRI adverse effects (nausea, vomiting, indigestion, abdominal pain, diarrhea, rash, sweating, agitation, anxiety, headache, insomnia, chills, sexual dysfunction, hyponatremia), antimuscarinic effects, sedation, extrapyramidal symptoms, and discontinuation symptoms may be more common with paroxetine. The most common adverse effects during the use of paroxetine were reported as nausea, drowsiness, stretching, dry mouth, loss of appetite, nervousness, sweating, constipation, and ejaculation disorder.

Leukopenia can be diagnosed when patients have a reduced number of total white blood cells in their blood. A healthy white blood cell count is 5,000–10,000 white cells per microliter (μL) of blood for males and children, and 3,500–11,000 white cells per μL for females.

Drug-induced leukopenia is a rare but potentially life-threatening side effect of psychotropic drugs such as clozapine, the phenothiazines, and tetracyclic antidepressants. Selective serotonin reuptake inhibitors (SSRI) such as Paroxetine have been rarely associated with possible leukopenia. There are limited case reports of leukopenia due to Paroxetine in the literature.

Case Presentation

We report a case of a 53 years old male, with a history of depression for 10 years and was on Paroxetine. The patient was admitted to the Emergency department

with history of fatigability, loss of appetite, nausea and subjective fever for 12 days. A history of camel milk ingestion was reported. No history of vomiting, diarrhea, abdominal pain or jaundice was reported. There was no dysphagia, weight loss, night sweating, chest pain, SOB, palpitation, wheezing or syncope.

No history of headache, weakness, numbness, convulsion, loss of consciousness, hearing loss blurred of vision was reported. There was no history of polyurea, polydipsia, polyphagia, or dysuria. The patient did not have recent or Recurrent URT.

Past medical history: Depression for 10 years, not compliant to OPD.

Past surgical history: None.

Drug history: Paroxetine 20 mg tabs, once per day for 10 years.

Allergy history: None.

Family history: Mother has DM and HT, Father has DM.

Social history: The patient is a married retired soldier, not smoker, not alcoholic, no history of IV drug abuse.

Sexual history: None.

Blood transfusion history: None.

The patient was admitted to Isolation on 15/Oct/2020 As COVID-19-viral infection.

O/E:

The patient was conscious, oriented to time, place and person. GCS:15/15.

BMI: 23

Vital signs: BP: 133/74 - Pulse: 68 - Temperature: 37.1 - RR: 20 - SPO2: 96% ON RA.

HEENT: No jaundice, pallor, scalp tenderness or mastoid tenderness. No conjunctival injection or discharge. No oral ulcers, cyanosis, oral thrush or tonsillar exudate. No cervical lymphadenopathy.

Chest: Bilateral equal air entry, No added sounds (insignificant).

CVS: Normal S1+S2+O, no murmurs (insignificant).

Abdomen: Soft and lax, no organomegaly or signs of chronic liver disease. Normal external genitalia (insignificant).

PR exam: Normal, no tenderness.

Upper extremity: No signs of infective endocarditis, or signs of CLD or inflammation.

Lower limb: No lower limb edema, no signs of DVT, pulses were intact.

Joint examination: No signs of inflammation.

Investigations:

Laboratory investigations are demonstrated in table 1.

COVID-19 H1N1 MERS COV: Negative.

Sputum, urine, blood, stool culture: Negative.

Stool and urine analysis: Negative.

Salmonella widal test: Negative.

Malaria: Negative.

Dengue serology: Negative.

Hepatitis B, C and HIV: Negative.

Peripheral blood smear: Leucopenia with lymphopenia.

ECG: Regular sinus rhythm.

VBG: Normal.

CXR: Normal.

Echo: EF>60%, Normal.

PAN CT: Unremarkable.).

Treatment:

The patient received Ceftriaxone, Azithromycin, Tamiflu, Omeprazole, and IVF 63 ml/hr. The patient was discharged home on 20 October 2020.

Upon discharge: WBC count was 2.78, lymphocyte was 0.70, neutrophil was 1.9, and monocyte was 0.20.

Discussion:

In this case report, we aimed to share with the literature, a case of Paroxetine-induced leukopenia, that was found incidentally in a patient with major depressive disorder.

Drug-induced leukopenia is a rare but life-threatening condition that can present within months to years after initial drug exposure.

Table (1): Findings of the laboratory investigations

Investigation	Count
WBCs	2.63
Neutrophil	1.8

Lymphocyte	0.65
Monocyte	0.17
Eosinophils	0
Basophils	0.01
RBCs	4.57
HB	13.5
Platelets	173
AST	37
ALT	33
ALP	77
Total Bilirubin	3.3
Albumin	33
Total protein	68
Na	138
K	3.9
CL	104
Bun	3.4
Creatinine	70.2
INR	0.94
PTT	28
LDH	216
CK	201
Ca	2.1
Ph	0.96
Random blood sugar	96

The incidence is 1-2 people per 100,000 each year. Middle age and being female are high risk factors. The mortality rate of hematologic adverse effects due to psychotropic drugs is 8-17%.

Only a limited number of cases were shared in a few journals about leukopenia caused by paroxetine.

The symptoms of Paroxetine-induced leukopenia are often vague and are primarily related to leukopenia. The symptoms include fatigue, loss of appetite, nausea, and repeated infections. Physical examination may be insignificant. A thorough medical and drug history is crucial to the initial workup in all patients with leukopenia. Due to the silent feature of drug-induced leukopenia, it is important to be vigilant toward early signs of leukopenia.

Conclusion:

This case is reported to highlight Paroxetine, a frequently used anti-depressant drug, which is considered as a cause of drug-induced leukopenia. In the similar cases, patients should be carefully monitored for any evidence of leukopenia. Patients should be informed about the possible adverse reactions of the drug before starting it.

In cases of unclear leukopenia, the treating physician must keep suspicion of drug-induced leukopenia. High and meticulously look for the possible drugs should be done, because there are no suitable definitive tests for the case. Treatment with suspected drugs must be stopped promptly to prevent any severe complications and fatal outcomes.

Conflict of interests

The authors declared no conflict of interests

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