Profound Anemia Induced by Lamotrigine in a 16-Year-Old Female with Sickle Cell Trait and Mood Disorder: A Case Report and One-Year Follow-Up

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Abstract

Introduction. Lamotrigine is an antiepileptic drug of the phenyltriazine class with inhibitory effects on voltage-sensitive sodium channels, leading to an inhibition in the release of glutamate and resulting in a general inhibitory effect on cortical neuronal function. Lamotrigine is also a weak dihydrofolate reductase inhibitor. The drug is approved by the U.S. Food and Drug Administration for maintenance treatment of bipolar type I disorder in adults. There have been reports of hematologic adverse effects with lamotrigine therapy. This case report describes a 16-year-old female who developed profound anemia while on lamotrigine therapy.

Method. Ms. X was a 16-year-old African-American female with sickle cell trait and mood disorder referred by the Division of Youth Services (DYS). Her medication regimen included lamotrigine 200 mg in the morning, aripiprazole 5 mg in the morning, and mixed amphetamine salts extended-release 30 mg in the morning. While at DYS, she developed fatigue and headaches with exertion. Her blood work detected a very low hemoglobin level of 3.1 g/dL and a very low hematocrit of 10.9%. Her MCV, MCH, and MCHC were within the normal range. The remainder of her blood count and other labs were within normal limits. The patient’s blood pressure was 105/70 mm Hg and her pulse was 109. The patient was sent to the local emergency room immediately; upon hospital admission, she received 4 units of packed red blood cells via transfusion.

Results. After a blood transfusion, the patient’s hemoglobin level improved to 9.7 g/dL. The patient’s symptoms had improved significantly; her headaches and fatigue with exertion were gone. It was suspected that her profound anemia was induced by lamotrigine. She was discharged from the hospital with instructions to stop lamotrigine and visit a hematology specialist. Several weeks later, she underwent a hematology evaluation, including a bone marrow biopsy and genetic testing, which were unremarkable. Her hemoglobin level remained stable.

Conclusion. The patient’s anemia resolved after the discontinuation of lamotrigine. The patient was followed for 1 year with blood work performed every few months. Her hemoglobin level did not drop further and in fact slowly increased to 13.9 g/dL spontaneously over the next year. In the literature, there have been reports of blood dyscrasias that may or may not be associated with hypersensitivity syndrome in patients who take lamotrigine. Considering hematologic adverse effects, it may be prudent to consider a baseline blood count before starting lamotrigine and repeat this test 3 to 6 months after initiation. It remains unclear whether lamotrigine use with a background of sickle cell trait in this patient put her at an increased risk of profound anemia. Further studies are required to explore the effects of this commonly used medicine.

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The Utility of Planned Deprescribing in Pandemics and Other Disasters: A Systematic Review

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Abstract

Background. How can psychiatrists best provide care in complex, sometimes overwhelming disasters? COVID-19 strained every aspect of health care to the breaking point, from finances to pharmaceutical supply lines. We can expect more challenges to prescribing in the future, as shown by recent hurricanes in Puerto Rico, fires in California, and ice storms in Texas. When medications become scarce or inaccessible, then clinicians need to make difficult prescribing decisions. We suggest that a culture of deprescribing, a systematic approach to reducing or simplifying medications, could be applied to a wide variety of crises. Deprescribing is defined as the planned reduction of medications to improve patient health or to reduce side effects (see deprescribing.org). It has been used to reduce polypharmacy in geriatric and other complex populations. It provides evidence-based guidance for phasing out many classes of medications. It is part of the larger program to reduce waste in health care and to make pharmacy more rational. Disasters and resource scarcity, however, require a different approach. In contrast to routine care focused on individual patients, crisis standards of care (CSC) shift the clinical focus to the community. Instead of deprescribing guidelines for individual clinicians, CSC deprescribing would be national policies addressing shortages of important medications. We did a scoping review looking for studies of deprescribing in a crisis.

Methods/Results. We extracted 1340 references in Google Scholar 2016 to 2021 using (deprescribing) AND (disaster OR crisis OR pandemic OR supply lines). A scan of texts
found 160 references matching our criteria, and only 19 of them addressed deprescribing as a strategy to strengthen health systems or providers in an emergency. Most of those were related to scarce supplies during COVID, and a few addressed the carbon impact of medications. We also reviewed related literatures on medication supply chain vulnerabilities, WHO Essential Medicines, and healthcare rationing.

Implications. Deprescribing gained attention during the COVID pandemic, responding to both disrupted supply lines and improving patient safety. Writers concerned with climate change support deprescribing to reduce the carbon impact of medications. Deprescribing as crisis policy could help streamline national stockpiles, supply chains, and manufacturing. Education could make deprescribing second nature for clinicians, potentially decreasing stress and increasing flexibility in future emergencies. Barriers to deprescribing generally include cultural inertia, industry lobbyists, education, and malpractice fears. In a crisis, deprescribing guidelines could provide clinicians with confidence and flexibility while conserving scarce resources. Research is needed to evaluate deprescribing guidelines for crises, especially ensuring equity in how they reduce polypharmacy and save money.

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Real-World Outcomes Associated with Cognitive Impairment Among Patients with Schizophrenia

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Abstract

Objectives. To investigate the association between cognitive impairment and hospitalizations, quality of life and satisfaction with life among patients with schizophrenia.

Methods. A point-in-time survey was conducted between July and October 2019 via the Adelphi Schizophrenia Disease Specific Programme across the USA. Patients were stratified as mild or severe based on the level of cognitive impairment reported by their psychiatrist (normal, mild = mild; moderate, severe, very severe = severe). Multiple regression analysis was used to model the association between cognitive impairment and outcomes, adjusting for baseline characteristics.

Results. Data were provided by 124 psychiatrists for 651 mildly and 484 severely impaired patients with schizophrenia; PSCs were completed by 349 mildly and 206 severely impaired patients. Severe cognitive impairment was associated with increased odds of hospitalization due to schizophrenia relapse since diagnosis (2.10 odds ratio [OR], P = .004) and within 12 months (1.95 OR, P < .001) compared to patients with mild cognitive impairment. Severe cognitive impairment was also associated with lower overall life satisfaction according to the Quality-of-Life Enjoyment and Satisfaction Questionnaire (−8.13 coefficient, P = .006) compared to mild cognitive impairment.

Conclusion. Schizophrenia patients with severe cognitive impairment had more hospitalizations due to relapse than patients with mild cognitive impairment. Additionally, patients with severe cognitive impairment had significantly lower quality of life and overall satisfaction with life compared to patients with mild cognitive impairment.

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