

Intentional Chronic Lithium poisoning by the wife for preventing physical torture during domestic violence by her husband suffering from bipolar disorder

Dr. Vivekanshu Verma, MBBS, DFM, Associate consultant, Emergency & Trauma care, Medanta-The Medicity, Gurugram. India

Dr. Devendra Richhariya, MBBS, MD Internal Medicine, Associate Director, Emergency & Trauma care, Medanta-The Medicity, Gurugram.

Dr. Pankaj Kumar Sahu, MBBS, MD Family Medicine, Associate consultant, Internal Medicine, Medanta-The Medicity, Gurugram.

Mr. Santosh Kumar Verma, BSc. LLB. Senior Advocate, Rajasthan High Court.

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Corresponding author

Dr. Vivekanshu Verma
 Associate consultant, Emergency & Trauma care,
 Medanta-The Medicity, Gurgaon, India

Phone: +919810497871
Email: vivekanshu@yahoo.co.in

Abstract

Lithium, was popular as a drug of choice in past for maniac psychosis, rarely prescribed now, because lithium has very narrow therapeutic range, acts as a double-edged sword- it's under dose will not control the maniac violent behavior, and an overdose will be toxic to kidneys & Brain¹. We describe interesting case of intentional chronic Lithium poisoning reported in our Emergency, due to deliberate irregular follow-up of an elderly male suffering from manic-depressive psychosis with physician by patient's wife & caretaker, who procured lithium drug, and misused lithium as a sword to save herself, from suffering violent abuse by her aggressive husband by overdosing him slowly chronically, resulting into sedative status of the patient, which could be diagnosed by meticulous history taking & logical investigations by treating doctor, who was able to reach on a critical diagnosis of the emergency, thus saving life of patient, from acute kidney failure as a result of lithium toxicity.

Keywords: Lithium, torture; mental health; mania; intimate partner; domestic violence

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Introduction

People with mental disorders are more violent than the general population, there are several aspects of untreated bipolar disorder that can lead to an increased risk of domestic violence. A common form of mood disorder is a bipolar disorder with cyclically alternating manic and depressive phases. Mania—elation or irritable mood, reduced sleep, hyperactivity, uncontrollable thought, and speech, may be associated with reckless or violent behavior. The Individuals with the untreated bipolar disorder are at an increased risk for violent behavior for the following reasons: Substance abuse often fuels domestic violence, Mania can cause impulse control disorders, Reckless sexual behavior can cause injury to the bipolar person's partner, Major depression can cause suicidal thoughts or actions. Domestic

violence, or intimate partner violence (IPV) as it is sometimes called, is a worldwide problem. Intimate partner violence (IPV) is defined by the Centers for Disease Control and Prevention as 'physical, sexual, or psychological harm by a current or former partner or spouse (1). According to a National Family and Health Survey in 2005, the total lifetime prevalence of domestic violence was 33.5% and 8.5% for sexual violence among women aged 15–49yrs (2).

Case presentation: A 58 yrs. old male with bipolar disorder on lithium therapy was hospitalized in Emergency in the drowsy lethargic state with recurrent episodes of convulsive syncope. On examination, the patient had fine flapping tremors of both hands, slurred speech, ataxia, lethargy, and confusion. Despite increasing lethargy, the

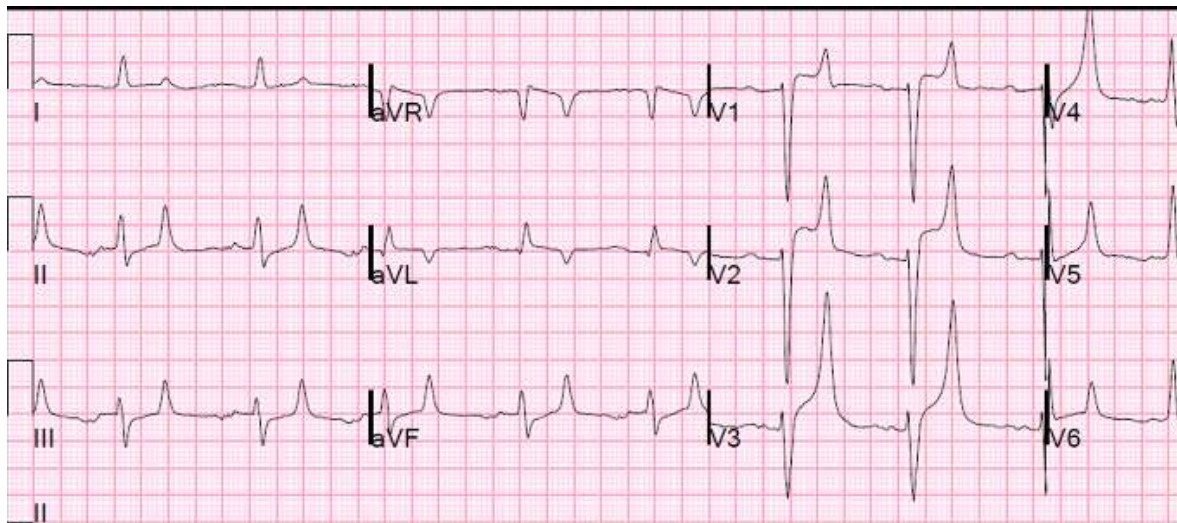


Fig. 1. ECG of a patient on Lithium Therapy

patient had continued to receive his regular dose of lithium by his wife, the patient was admitted with profound dehydration, ECG showed abnormal T wave with widened QRS pattern (Figure 1). Card Test: Trop I = 1.03 was critically high, but CPKMB was normal. Blood Gas analysis showed hyperkalemia & ant hyperkalemic medications were administered, showing improvement in VBG report (Figure 1b). Acute renal dysfunction (Urea=169 mg/dL, Creatinine= 4.40 mg/dL) (figure 2) and hyperkalemia (K= 6.9) were noted on laboratory reports. Serum Lithium = 2.89mmol/L was critically toxic (therapeutic range= 0.6-1.2mmol/L) (figure 3). The patient developed acute kidney injury with sepsis, requiring aggressive treatment of urgent dialysis and discontinuation of lithium, replacing with safer antimanic drugs.

Lithium carbonate is a drug of its own kind to suppress mania and to exert a prophylactic effect in bipolar (manic-depressive) disorder at doses which have no overt CNS effects. Lithium is established as the standard anti-maniac and mood-stabilizing drug. During its excretion, Lithium-ion is handled by the kidney in much the same way as Sodium ions. Nearly 80% of the filtered Lithium is reabsorbed in the proximal convoluted tubule in the kidney. Since the margin of safety is narrow, monitoring of serum lithium concentration is essential for optimizing therapy. Serum lithium level is measured 12 hours after the last dose to reflect the steady-state concentration; 0.5–0.8 mEq/L is considered optimum for maintenance therapy in bipolar disorder, while 0.8–1.1 mEq/L is required for episodes of acute

mania. Toxicity symptoms occur frequently when serum levels exceed 1.5 mEq/L(3).

CNS toxicity manifests as plasma concentration rises to produce coarse tremors, giddiness, ataxia, motor incoordination, nystagmus, mental confusion, slurred speech, hyperreflexia.

Overdose symptoms are regularly seen at plasma concentration above 2 mEq/L. In acute intoxication, these symptoms progress to muscle twitching, drowsiness, delirium, coma, and convulsions. Treatment of its overdose is symptomatic. There is no specific antidote. Osmotic diuretics and sodium bicarbonate infusion promote Lithium excretion. Hemodialysis is indicated if serum levels are > 4 mEq/L or features of kidney injury e.g., hyperkalemia occurs (3).

There are several domestic violence laws in India. The earliest law was the Dowry Prohibition Act 1961 which made the act of giving and receiving dowry a crime. In an effort to bolster the 1961 law, two new sections, Section 498A and Section 304B were introduced into the Indian Penal Code in 1983 and 1986. The most recent legislation is the Protection of Women from Domestic Violence Act (PWDVA) 2005. The PWDVA, a civil law, includes physical, emotional, sexual, verbal, and economic abuse as domestic violence. The Act provides for the first time in Indian law a definition of "domestic violence", with this definition being broad and including not only physical violence, but also other forms of violence such as emotional/verbal, sexual, and economic abuse. It is a civil law meant primarily for protection orders and not meant to penalize criminally



Fig. 1b. Hyperkalemia with hyperglycemia

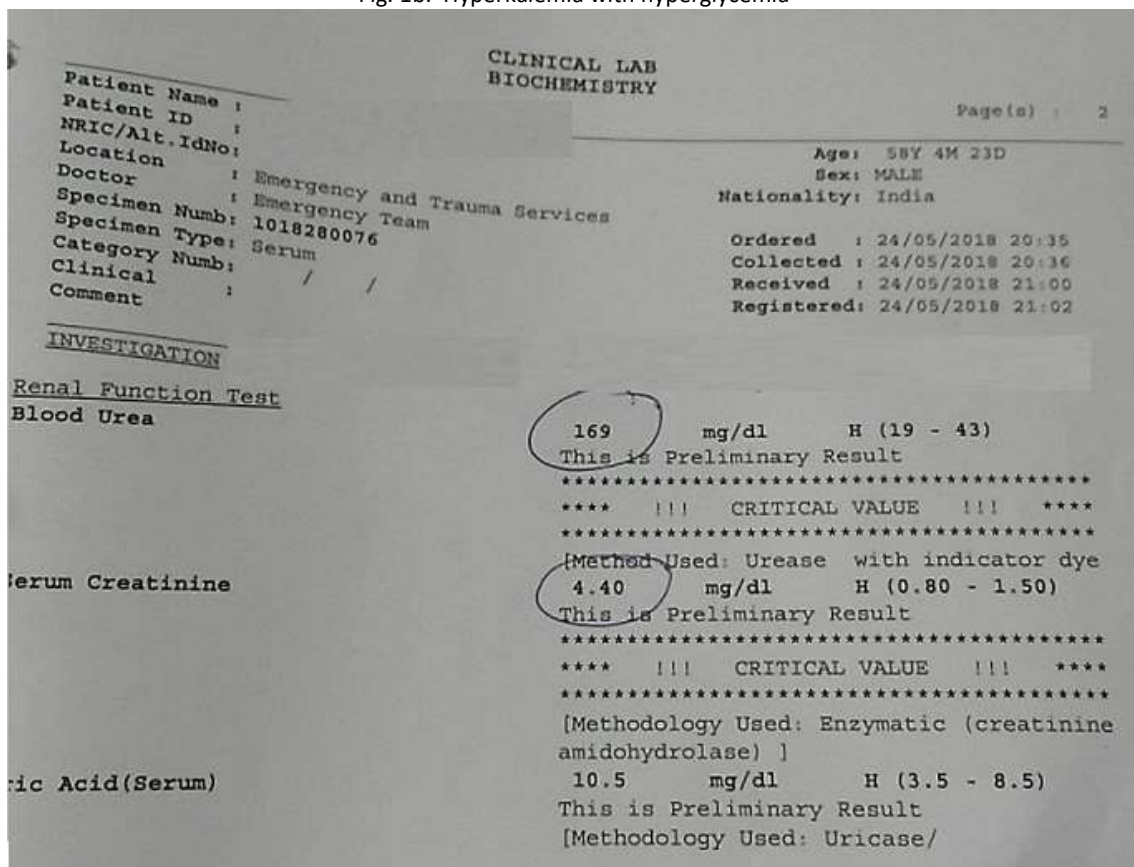


Fig. 2. High serum urea & creatinine level with Lithium therapy

S02 - MEDANTA THE MEDICITY
 SECTOR -38, GURGAON, HARYANA, PIN CODE
 N O : 122001
 GURGAON

Name	: Mr.	Collected	: 25/5/2018 9:19:00AM
Lab No.	: 141059855	Age: 58 Years	Gender: Male
A/c Status	: P	Ref By: MEDANTA THE MEDICITY	Report Status: Final
		Received	: 25/5/2018 9:37:27AM
		Reported	: 25/5/2018 6:25:34PM

Test Name	Results	Units	Bio. Ref. Interval
LITHIUM, SERUM @ (Colorimetric)	2.89	mmol/L	0.40 - 1.20

Interpretation

STATE	REFERENCE RANGE IN mmol/L
Normal	0.40-1.20
Warning	1.20-1.50
Risk of Intoxication	>1.50

Fig.3. Toxic Lithium levels of a patient on Lithium therapy

Discussion

Domestic violence in India includes any form of violence suffered by a person from a biological relative, but typically is the violence suffered by a woman by male members of her family or relative. Domestic violence is defined by Section 3 of the PWDVA Act as “any act, omission or commission or conduct of the respondent shall constitute domestic violence in case it: harms or injures or endangers the health, safety, life, limb or well-being, whether mental or physical, of the aggrieved person or tends to do so and includes causing physical abuse, sexual abuse, verbal and emotional abuse, and economic abuse; or harasses, harms, injures or endangers the aggrieved person with a view to coerce her or any other person related to her to meet any unlawful demand for any dowry or other property or valuable security; or has the effect of threatening the aggrieved person or any person related to her by any conduct mentioned in clause (a) or clause (b); or otherwise injures or causes harm, whether physical or mental, to the aggrieved person (4).” The other relief envisaged under the Act is that of the power of the court to pass protection orders that prevent the abuser from aiding or committing an act of domestic violence or any other specified act, entering a workplace or any other place frequented visited by the abused, attempting to communicate with the abused, isolating any assets used by both the parties and causing violence to the abused, her relatives and others who provide her assistance from the domestic violence.

It is not uncommon for the partner of a bipolar individual to resort to manipulating medical

interventions in order to prevent her partner from becoming more violent (2). In our case, wife of patient misused Intentional Chronic Lithium poisoning as a sword of protection, for preventing physical torture in domestic violence by her violent husband suffering from bipolar disorder, as lithium overdose resulted in drowsiness and reduced energy levels in the patient, thus reducing incidence of violent attacks on herself by the patient, because the law -PWDVA, is not useful in preventing the domestic violence by mentally ill patients on their family members. In addition, Section 84 of IPC also prevent any legal restraint on the violent maniac patient - Act of a person of unsound mind.—Nothing is an offence which is done by a person who, at the time of doing it, by reason of unsoundness of mind, is incapable of knowing the nature of the act, or that he is doing what is either wrong or contrary to law (5). Recently Mental Healthcare Act 2017, also emphasizes legal protection to insane - that criminal acts of violence done by mentally ill under the influence of mental illness, cannot be held criminally responsible for their crime (6). MHA Act has been amended in 2017 to provide for mental healthcare and services for persons with mental illness and to protect, promote and fulfill the rights of such persons during delivery of mental healthcare and services and for matters connected therewith or incidental thereto.

Conclusion

Medical causes of violent behavior should be adequately treated by regular follow up with a physician, to prevent the intentional or unintentional drug toxicity to patients by their

family members, as a wrongful method of protecting self by harming other.
Authors' contributions: All authors have read, reviewed and contributed to the final manuscript.

Conflict of interest

Nil

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