

## CASE REPORT

# ESCITALOPRAM INDUCED HYPONATREMIA

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## Abstract

**Objective:** National and international pharmacovigilance committee reports and case-control studies also implicate paroxetine, fluoxetine, sertraline. However, there have been only few reported cases of hyponatremia associated with escitalopram. The objective of this case report is to highlight a strong association of hyponatremia and SIADH (Syndrome of Inappropriate ADH secretion) in a middle-aged patient receiving escitalopram, a drug less commonly known to cause such side effects. **Methods:** We report a case of escitalopram induced severe hyponatremia in a middle-aged man where the association of hyponatremia with escitalopram is clearly established. Patient developed hyponatremia on the re-challenge with escitalopram (serum sodium = 94 mEq/L) within two days of initiation of treatment. The patient was free from other medical illnesses and was not taking other medications known to cause hyponatremia (confounders present in previous case reports suggesting an association between escitalopram and SIADH). **Results:** Our case suggests a strong association of escitalopram use and development of hyponatremia and SIADH in the absence of another drug use and medical comorbidity. **Conclusion:** Escitalopram, an SSRI is associated with hyponatremia and SIADH even in middle-aged individuals. There is a need for case-control studies especially involving a younger and middle age group. *ASEAN Journal of Psychiatry, Vol. 17 (2): July – December 2016: XX XX.*

**Keywords:** SSRIs, Escitalopram, Hyponatremia, SIADH, Adverse Drug Reactions

## Introduction

There are numerous reports of an association between use of Selective Serotonin Receptor Inhibitors Reuptake Inhibitors (SSRIs) and hyponatremia. Incidence varies between 0.5 and 25% [1]. Higher risk is of hyponatremia secondary to the use of SSRI is associated with elderly age, female gender, concomitant use of diuretics, especially thiazidies, narcotic, oral hypoglycaemic agents, antipsychotics and higher dose of SSRI; low body weight and low sodium plasma levels or levels in the low limit of normality prior to treatment [2]. The risk in the elderly seems to be greatest during the first few weeks of treatment, which increases further with increasing age. SIADH has been suggested as a possible mechanism for SSRIs

induced hyponatremia [3].

National and international pharmacovigilance committee reports and case-control studies also implicate paroxetine, fluoxetine, sertraline [2]. However, there have been only few reported cases of hyponatremia associated with escitalopram [1]. We report a case of escitalopram induced severe hyponatremia in a middle-aged man where the association of hyponatremia with escitalopram is clearly established in the absence of confounders like medical morbidities and use with other drugs known to cause hyponatremia and thereby highlights its clinical and further research implication.

## **Case Report**

A 50-year-old male, known hypertensive for 12 years, without any other medical comorbidity presented with history of experiencing panic attacks daily, which was causing socio-occupational dysfunction. Physical examination and investigations did not reveal any abnormality. Hence, a diagnosis of Panic disorder without agoraphobia was made according to ICD-10 (International Classification Diseases – 10<sup>th</sup> edition) [4]. Patient was on Telmisertan 80 mg and Acetyl salicylate 150 mg during this period and had been normotensive on the same dose for previous two years. He was prescribed escitalopram 10 mg on which he achieved significant reduction in the number of panic attacks within next two years. Thereafter, he lost to follow up from psychiatry and stopped escitalopram. However, he was compliant to anti-hypertensive and was under regular follow-up of a physician. After around one year, patient again started having panic attacks for which he himself started taking 10 mg of escitalopram. There was no change in a dose of antihypertensive medications during this period.

On day 3, patient had episodes of excessive vomiting, which was followed by altered sensorium and reduced responsiveness without any history of fever, pain abdomen, and loss of consciousness, headache, diplopia and seizure. Blood pressure was also found to be high (190/110 mmHg) on multiple occasions. On admission, investigations revealed severe hyponatremia (serum Na 94 mEq/L), hypokalaemia (serum K = 2.6 me/L) and hypochloridemia (Serum Chloride – 50 mEq/L). Spot urinary sodium was low (43 mEq/l). Electroencephalography revealed increased beta activity while the brain MRI revealed no abnormality. He was diagnosed to be a case of metabolic (hyponatremic) encephalopathy and SIADH with hypertension. Escitalopram was discontinued, and serum sodium concentration was raised up to 132 meq/l within 5 days. He was also given 3% normal saline to enhance correction of serum sodium. Urinary spot sodium also normalized (84meq/l). As he again developed similar symptoms within 2 days, he was readmitted. On examination, rigidity and bradykinesia were present. Investigations

revealed serum Sodium – 135 mEq/L, urinary spot sodium – 53, Serum osmolarity – 268 and urine osmolarity – 478 mosm/L. Repeat MRI brain showed T1 hypointense, T2/FLAIR hyperintense with diffusion restriction in the central pons and bilateral basal ganglia and thalamus suggestive of pontine and extrapontine myelinolysis. He was managed with levodopa and supportive therapy and was discharged subsequently. He is following up regularly and has shown much improvement in his extrapyramidal symptoms. Subsequently, he developed adjustment disorder problems in the form of sadness of mood, excessive worries regarding his illness and occasional ideas of hopelessness. This was managed by supportive psychotherapy only.

## **Discussion**

Among the few case reports of hyponatremia associated with escitalopram majority were elderly except two reported cases aged below 50 (5, 6). Majority of the cases had multiple medical co-morbidities, which may explain the development of hyponatremia in these cases. Moreover, concomitant use of single or multiple other drugs (Table 1) like hydrochlorthiazide (7, 8, 9, 10), riperidone (6), quetiapine (1), atenolol and amlodipine (10), mirtazapine and donepezil (9) which are known to cause hyponatremia, weakens the association of escitalopram use and hyponatremia. This case developed severe hyponatremia with the lowest serum sodium (94) level so far reported, within only 2 days of re-introduction of low dose escitalopram unlike other cases (Table 1). Literature suggests recurrence of hyponatremia with re-exposure of SSRIs while in our case, there was no history of developing hyponatremia when introduced for the first time but occurred on re-exposure. However, the possibility of undetected transient hyponatremia cannot be ruled out.

This current case is unique in terms of relatively younger age of onset (Table1). Relative absence of multiple medical comorbidities and absence of concomitant use with other drugs known to cause hyponatremia strengthens the association of escitalopram induced hyponatremia. Henceforth, this case report highlights the need for baseline and regular serum electrolytes in all age group

while on escitalopram and also emphasizes the need for case –control studies especially involving a younger age group.

### Conclusion

In conclusion, this case highlights the clear

association of escitalopram use (an SSRI less commonly known to cause SIADH and hyponatremia) with SIADH in the absence of other medical comorbidity and concomitant drug use and the need for regular serum electrolyte monitoring in patients receiving it.

**Table 1. Summary of previous case reports of escitalopram and hyponatremia**

Case reports	Age (Years)	Gender	Dosage (mg/day)	Time of onset	Co-morbid conditions	Other on -going medication/treatment
Nirmalani et al, 2006	50	Male	20	28	Depression with psychotic features Hypertension COPD Osteoarthritis Gastroesophageal reflux disease	Risperidone
Adiga & Dharmarajan, 2006	81	Female	10	21	Alzheimer's disease Hypertension Osteoporosis	Donepezil, Hydrochlorothiazide, Mirtazapine
Grover et al, 2007	67	Female	15	21	Late onset Bipolar affective disorder Diabetes Mellitus Hypertension	Sodium valproate, Hydrochlorothiazide Gliclazide Aspirin Losartan Metoprolol
Grover et al., 2007	65	Male	10	10	Hypertension Generalised anxiety disorder	Atenolol Amlodipine.
Covyeou & Jackson, 2007	75	Female	116	5	Hypertension Depression	Amlodipine, Hydrochlorothiazide Alprazolam, Aspirin Esomeprazole
Tsai et al, 2012	73	Female	10	>60	Lewy body dementia	Trihexyphenidyl, Bethanechol and Tamsulosin
Pae et al, 2013	47	Male	5	110	Quadriplegia with Spinal malformation Depression	No other medication

### Acknowledgements

The authors acknowledge constant encouragement from Prof. SK Khandelwal, Head of the Department of Psychiatry and Chief NDDTC, AIIMS.

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Received: 18 February 2016

Accepted: 18 June 2016