

Screening pattern of valproate level on admission to psychiatric unit in patients receiving the medication: quality improvement project

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Introduction

The estimated lifetime prevalence of bipolar I and II disorders in general population is 3.7%- 3.9 % in recent epidemiological studies.^{1,2}

Based on APA guidelines for management of bipolar disorder, the first-line pharmacological treatment for more severe manic or mixed episodes is the initiation of lithium plus an antipsychotic or valproate plus an antipsychotic. For less ill patients, monotherapy with lithium, valproate, or an antipsychotic such as olanzapine may be sufficient and the initial treatment for patients who experience rapid cycling should include lithium or valproate.³⁻¹¹

Furthermore, for the maintenance treatment, APA guidelines state that the medications with the best empirical evidence to support their use in maintenance treatment include lithium and valproate.³

APA guidelines for bipolar disorder suggest routine serum monitoring every 6months along with other hematologic and hepatic assessments, or more frequently if necessary. The APA recommends maintaining serum valproate levels of 50 to 125 mcg/mL when treating: acutely manic patients, outpatients, the elderly and patients who are hypomanic or euthymic.^{3,12-15}

NICE guidelines are recommending not to routinely measure valproate blood levels unless there is evidence of ineffectiveness, poor adherence or toxicity.¹⁶

Based on that, checking the valproate level in newly admitted patients is deemed to be necessary. This study aims at finding whether valproate level was screened for valproate receiving patients upon their admission to the psychiatry inpatient units.

Methods

We conducted a retrospective Quality improvement Project at the Psychiatry department of Hamad Medical Corporation (HMC), reviewing all admissions to the inpatient units throughout 2013.

754 patients were admitted, aged 17-72, 600 of them were males and 154 were females.

167 patients were on Valproate or 22.1% of all admissions; of whom 67 patients or 40.1% were tested for valproate level. 9 patients or 13.34% of those tested were having toxic valproate levels. Calculating the proportional possible missed toxic patients it was 13 missed, basically more than those who were detected (Table 1).

Conclusion

The aim is to ensure quality improvement of practice by drawing recommendations and following their application. The patient safety and is the main driver behind our review. Also, how else would we be able to detect if the patient is compliant or not?

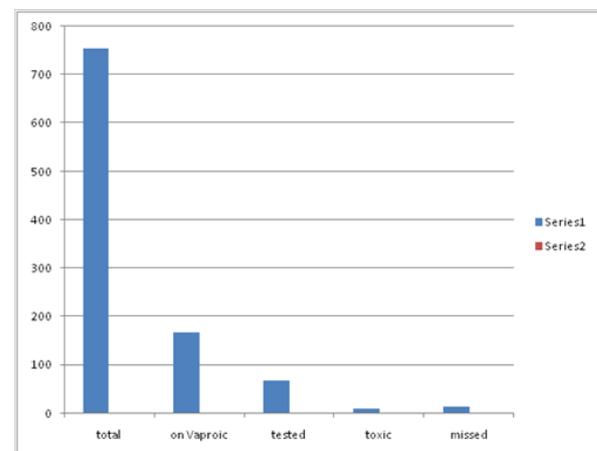


Table 1 Valproate

Total	754	100%
on Valproic	167	22.10%
Tested	67	40.10%
Toxic	9	13.30%
Missed	13	19%

For all patients who are receiving valproate, we recommend to check its level when they are admitted to the inpatient unit to monitor compliance and to avoid missing patients with toxic levels of the drug.

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Conflicts of interest

Author declares there are no conflicts of interest.

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