

Screening Pattern of Valproate Level on Admission to Psychiatric Unit in Patients Receiving the Medication: Quality Improvement Project

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 6 months 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.

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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).

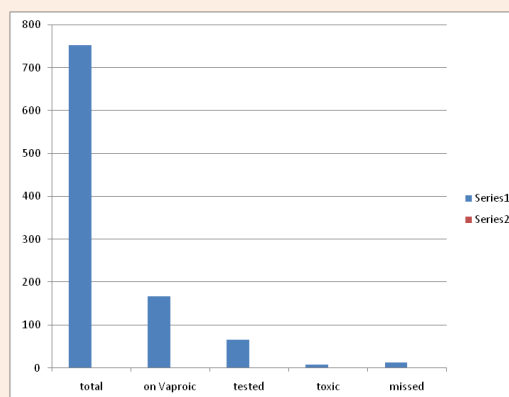


Table 1: Valproate

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

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?

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.

References

1. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, et al. (2005) Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 62: 593-602.
2. Hirschfeld RM, Calabrese JR, Weissman MM, Reed M, Davies MA, et al. (2003) Screening for bipolar disorder in the community. *J Clin Psychiatry* 64(1): 53-59.
3. American Psychiatric Association (2002) Practice guideline for the treatment of patients with bipolar disorder (revision). *Am J Psychiatry* 159(suppl 4): 1-50.
4. Bowden CL, Brugger AM, Swann AC, Calabrese JR, Janicak PG, et al. (1994) Efficacy of divalproex vs lithium and placebo in the treatment of mania. The Depakote mania study group. *JAMA* 271(12): 918-924.
5. Emrich HM, von Zerssen D, Kissling W (1981) On a possible role of GABA in mania: therapeutic efficacy of sodium valproate, in GABA and Benzodiazepine Receptors. Costa E, Dicharia G, et al. (Eds.), Raven Press, New York, pp. 287-296.
6. Brennan MJW, Sandyk R, Borsook D (1984) Use of sodium valproate in the management of affective disorders: basic and clinical aspects, in *Anticonvulsants in Affective Disorders*. Emrich HM, Okuma T, et al. (Eds.), Excerpta Medica, Amsterdam, p. 56-65.
7. Pope HG Jr, McElroy SL, Keck PE Jr, Hudson JI (1991) Valproate in the treatment of acute mania: a placebo-controlled study. *Arch Gen Psychiatry* 48(1): 62-68.
8. Swann AC, Bowden CL, Morris D, Calabrese JR, Petty F, et al. (1997) Depression during mania: treatment response to lithium or divalproex. *Arch Gen Psychiatry* 54(1): 37-42.
9. Swann AC, Bowden CL, Calabrese JR, Dilsaver SC, Morris DD (1999) Differential effect of number of previous episodes of affective disorder on response to lithium or divalproex in acute mania. *Am J Psychiatry* 156(8): 1264-1266.
10. McElroy SL, Keck PE, Stanton SP, Tugrul KC, Bennett JA, et al. (1996) A randomized comparison of divalproex oral loading versus haloperidol in the initial treatment of acute psychotic mania. *J Clin Psychiatry* 57(4): 142-146.
11. Zajecka JM, Weisler R, Swann AC (2000) Divalproex sodium versus olanzapine for the treatment of mania in bipolar disorder, in *American College of Neuropsychopharmacology Annual Meeting Poster Abstracts*. Nashville, Tenn, ACNP.
12. Arana GW, Hyman SE (1991) *Handbook of Psychiatric Drug Therapy*. (2nd edn), Little, Brown, Boston.
13. McElroy SL, Keck PE Jr, Tugrul KC, Bennett JA (1993) Valproate as a loading treatment in acute mania. *Neuropsychobiology* 27(3): 146-149.
14. McElroy SL, Keck PE Jr, Pope HG Jr, Hudson JI (1992) Valproate in the treatment of bipolar disorder: literature review and clinical guidelines. *J Clin Psychopharmacol* 12(1 Suppl): 42S-52S.
15. McElroy SL, Keck PE Jr, Pope HG Jr, Hudson JI, Faedda GL, et al. (1992) Clinical and research implications of the diagnosis of dysphoric or mixed mania or hypomania. *Am J Psychiatry* 149(12): 1633-1644.
16. *Bipolar Disorder* (2004) Bipolar disorder: the assessment and management of bipolar disorder in adults, children and young people in primary and secondary care.