Significant thrombocytopenia with sodium valproate in an adult patient with alcohol dependence

Sir,

Valproic acid (VPA), sodium valproate, and divalproex sodium forms are antiepileptic drugs, also used as prophylactic agents for migraine headaches and as mood stabilizers in patients with bipolar disorders. VPA is associated with idiosyncratic reactions as well as dose-related side effects. The latter include weight gain, hair thinning, tremor, and thrombocytopenia. In adults, platelet count of <150 × 10^3/µL is labeled as thrombocytopenia. Cases are considered mild if counts are between 70 and 150 × 10^3/µL and severe if <20 × 10^3/µL.[3,4]

The frequency of valproate-induced thrombocytopenia varied widely in previous studies, due to methodological differences. It has been found to be ranging from 5% to 53.8%. In most of the studies, thrombocytopenia has been found to be mild to moderate and the risk of thrombocytopenia was reported to increase with the age of the patient.[3-5]

In a study, 17.7% of patients experienced at least one episode of thrombocytopenia after exposure to divalproex sodium and significantly more number of patients developed thrombocytopenia in high valproic acid concentration group as compared to patients in low valproic acid concentration group.[6] Females were susceptible to thrombocytopenia at lower valproate concentration as compared to males.[3,6]

Here, we report a case of severe thrombocytopenia.

**CASE REPORT**

BG, a 31-year-old male, a known case of alcohol dependence and seizure disorder, presented to casualty for voluntary deaddiction of alcohol. He was on Sodium valproate 500 mg, twice a day for the last 2 months. The patient had no history of fever or bleeding. On examination, no hepatosplenomegaly was found. On routine investigations, he had hemoglobin of 15.7 g/dl, total white cell count of 4500 mm³, and platelet count of 21,000.

Peripheral blood film showed normocytic normochromic red blood cells, white blood cells were adequate with normal morphology and it showed thrombocytopenia, and few small clumps of platelets were also seen. Clinical hematology consult was taken and they made a provisional diagnosis of sodium valproate-induced thrombocytopenia. Neurology consult was taken for change of antiepileptic medicines. The neurologist started levetiracetam in the place of sodium valproate. Orthopedic consult was taken for pain in shoulder and a diagnosis of posterior dislocation of shoulder was made.

Platelet count increased to 24,000, 38,000, 68,000, and 192,000 on days 2, 3, 5, and discharge, respectively.

**DISCUSSION**

Thrombocytopenia is widely reported with the use of sodium valproate, but most of the articles reported mild-to-moderate thrombocytopenia.[3-5]

Delgado et al.[5] found that low platelet levels were typically noted in patients with serum valproate levels of over 140 µg/mL, and reduction of the medication dose usually resulted in a prompt increase in the number of platelets. These data suggest that the medication can be safely lowered in most patients with thrombocytopenia rather than discontinued altogether.

Apart from acquired immune deficiency syndrome, probably alcoholism is the leading cause of thrombocytopenia. Moreover, alcohol-related thrombocytopenia is generally transient and platelet counts usually return to normal within one week of abstinence.[7] Hence, thrombocytopenia in this patient may be caused by the effect of combination of sodium valproate and alcoholism.

It also suggests that in a patient with alcohol dependence, sodium valproate, whether as an antiepileptic or as a mood stabilizer, should be used with caution.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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1. **LETTERS TO EDITOR**
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Access this article online

Website: www.indianpsychiatry.org

DOI: 10.4103/psychiatry.IndianJPsychiatry_158_17

How to cite this article: Goyal SK, Badyal DK. Significant thrombocytopenia with sodium valproate in an adult patient with alcohol dependence. Indian J Psychiatry 2018;60:252-3.

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