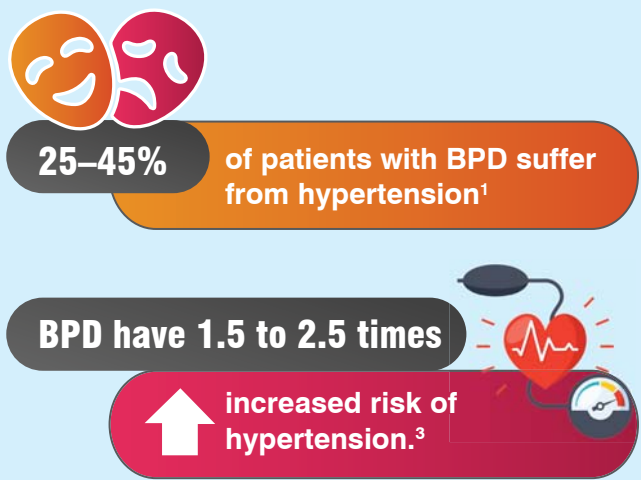


Is Drug Drug Interaction, a Challenge in Treating Co-morbid Condition like Hypertension & BPD?

Bipolar disorders (BPD) are associated with higher mortality due to co-morbidities, most commonly cardiovascular disease (CVD). Precursors of cardiovascular mortality, such as hypertension (HTN), is among the most common conditions in BPD.¹

Hypertension: The Leading Cause of Cardiovascular Mortality in BPD²



Treatment Challenges

Treatment of BPD is often long-term while that of hypertension is a lifetime therapy. It is important to choose an appropriate antihypertensive agent in these patients. One of the common challenges is that a given patient may be exposed to different anti-hypertensive agents at different time points necessitated by whether or not the desired level of BP control has been achieved while continuing to receive the same medications for BPD which may in turn increase the likelihood of potentially harmful drug interactions.

Drug Interaction with Anti-hypertensive Drugs

- From the reported drug-drug interactions of divalproex, it is clear that it is having minor interaction with amlodipine, which is also used in combination with drugs like Telmisartan, Olmesartan etc.^{4,5}
- Divalproex does not result in severe interaction as well as is not contraindicated to co-administer it with commonly prescribed anti-hypertensive medicines, making it a drug of choice for the treatment of hypertensive BPD patients.^{4,5}

Drug interactions of divalproex and some commonly used antihypertensive drugs^{4,5}

| | | | | | | | | | | |
|------------------------|------------|-------------|------------|-----------|------------|---------------------|-----------|----------|-------------------------|--|
| Drug-drug interactions | Divalproex | | | | | | | | ~ Possible interaction* | |
| | ? | Telmisartan | | | | | | | + Additive effect | |
| | ? | X | Olmesartan | | | | | | X Not recommended | |
| | ? | X | X | Valsartan | | | | | ? Interaction unknown | |
| | ~ | + | + | + | Amlodipine | | | | | |
| | ? | ? | ? | ? | ~ | Hydrochlorothiazide | | | | |
| | ? | X | X | X | ? | ? | Aliskiren | | | |
| | ? | + | + | ~ | + | ~ | ? | Atenolol | | |
| | ? | X | X | X | + | + | X | + | Ramipril | |

Major interaction

Minor-to-moderate interaction

*Observe precaution & monitor the patients

(The drug interactions between drugs are represented by the colour and the symbol in the column with the drug present in the horizontal line. For e.g., Divalproex has minor to moderate (Blue colour) possible interaction (~) with amlodipine, similarly with telmisartan can have major interaction (Yellow colour) with aliskiren and is (X) not recommended)

References: 1. Goldstein BI, Fagioli A, Houck P, Kupfer DJ. Cardiovascular disease and hypertension among adults with bipolar I disorder in the United States. *Bipolar disorders*. 2009 Sep;11(6):657–62. 2. Smith DJ, Martin D, McLean G, Langan J, Guthrie B, Mercer SW. Multimorbidity in bipolar disorder and undertreatment of cardiovascular disease: a cross-sectional study. *BMC medicine*. 2013 Dec 1;11(1):263. 3. Johannessen L, Strudsholm U, Foldager L, Munk-Jorgensen P. Increased risk of hypertension in patients with bipolar disorder and patients with anxiety compared to background population and patients with schizophrenia. *Journal of affective disorders*. 2006 Oct 1;95(1-3):13–7. 4. <https://www.pdr.net/drug-summary/Depakote-Tablets-divalproex-sodium-1075>. 5. https://www.drugs.com/interaction/list/?drug_list=918-0.

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Dear Doctor,

On the basis of your clinical experience of managing BPD & co-morbidities, which are the agents for which you would like to know more about their actual or potential interactions.



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