Valproic Acid (Valproate) Side Effects

Valproate, also known as valproic acid or by its trade name Depakote, is an antiepileptic drug with additional uses for mood disorders and migraine prophylaxis. It works by blocking sodium channels and altering GABA metabolism to increase GABA availability. Although it is a useful and effective drug, it carries a long list of potential side effects that are described in this card using the mnemonic V-A-L-P-R-O-A-T-E. In order, this mnemonic stands for: vomiting, alopecia, liver toxicity, pancreatitis/pancytopenia, retain fat (weight gain), oedema (edema), appetite increase, tremor, and enzyme inhibitor (cytochrome P450). It is also important to note that it is a teratogen.

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V-A-L-P-R-O-A-T-E

Vomiting
Vomit
Some of the more common side effects of valproic acid includes nausea and vomiting.

Alopecia
Aloe-plant on bald-head
Hair loss, or alopecia, can also occur with valproic acid use.

Liver Toxicity
Liver with Toxic-green-glow
Liver function abnormalities can remain asymptomatic or progress to hepatotoxicity with accompanying jaundice with valproic acid, more often during the initial phase of drug use. Checking liver enzymes like AST/ALT before beginning treatment and at regular periods thereafter is recommended.

Pancreatitis/Pancytopenia
Pancreas-on-fire and Pan-side-toe-peanut
Cases of acute pancreatitis have been linked to valproate. It is a dose and time-independent phenomenon that may occur during any phase of therapy. Varying blood dyscrasias like anemia, leukopenia, and thrombocytopenia may also occur; monitor a complete blood count (CBC) regularly for patients using valproate.

Retain Fat (Weight Gain)
Retaining Fat belly
Valproate may cause weight gain with accompanying insulin resistance that may lead to metabolic syndrome.

Oedema (Edema)
O-edamame
Oedema is the UK spelling for edema but its meaning remains the same. Patients on valproic acid should be aware that peripheral edema, or swelling of their extremities, may occur while taking this drug.

Appetite Increase
Up-arrow Appetite
Related to the attribute listed above, appetite increase may lead to increased food intake and ultimately weight gain.

Tremor
Trimmer
A common neurotoxic side effect of valproate are tremors. Underlying anxiety or stimulant use may worsen this effect. In-utero exposure to valproic acid is associated with neural-tube defects such as spina bifida because it acts as a folate antagonist. For this reason valproic acid is generally considered a teratogen and should not be used in patients trying to become or who currently are pregnant.

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Enzyme Inhibitor (P450)

Pea 450 with Inhibiting-chains

In contrast to other antiepileptic drugs such as carbamazepine or phenytoin that act as cytochrome P450 inducers, valproic acid is a CYP450 inhibitor. This means it can increase the circulating amounts of other medications by slowing the liver enzymes that would normally metabolize the drugs. Also be aware when using valproic acid in patients with liver disease that dosages must be decreased.

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