Differential Diagnosis: Ataxia (Drug-Induced)

Alcohol Intoxication
- *Associations*: Reports of alcohol ingestion or known history of alcohol abuse +/- body sway (primarily anteroposterior sway)
- *Pathophysiology*: Affects the function of the anterior lobe of the cerebellum (or spinocerebellum), which influences our coordination of movement.

Fluorouracil (5-FU)
- *Associations*: Reports of being treated for cancer
- *Pathophysiology*: While neurotoxicity is overall rare, it does appear to be dose related and can occur more commonly in patients deficient the enzymes, dihydropyrimidine dehydrogenase. It has been known cause damage to the neurons of the inferior olive and vestibular nuclei.

Lithium Toxicity
- *Associations*: History of mood disorder (Bipolar) +/- weakness +/- fasciculations +/- hyperreflexia +/- tremors
- *Pathophysiology*: Most commonly a manifestation with toxicity (usually chronic toxicity) and appears to be related to a reduction in the number of Purkinje cells and preservation of the basket cells of the cerebellar cortex, changes in the white matter, and change to the dentate nucleus.

Paclitaxel
- *Associations*: Reports of receiving chemotherapy or history of cancer treated with chemotherapy +/- evidence of peripheral neuropathy
- *Pathophysiology*: Impairs normal microtubule formation within the cytoplasm of neurons thereby leading to disruption in normal cell function.

Phenytoin (Dilantin) Toxicity
- *Associations*: History of epilepsy or seizures +/- altered mental status +/- low albumin (displaces dilantin from albumin) +/- elevated BUN (displaces dilantin from albumin)
- *Pathophysiology*: Toxicity to the cerebellum inhibition of the spontaneous burst discharges (nerve action potentials) of the hippocampus and cerebellum.

Phenobarbital
- *Associations*: History of seizures or epilepsy +/- sedation
- *Pathophysiology*: Etiology is unclear but appears more commonly with higher drug concentrations and in the presence of low folate levels, which phenobarbital is known to lower.

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