Drug-drug Interactions of Preventive Migraine Therapies

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Background: A drug interaction can lead to adverse drug reactions and is of a great concern if patient's condition is common, episodic and chronic (like headaches).

Patients with primary headaches are given prescriptions to take a certain drug whenever they have an attack and sometimes they seek over the counter medications for their pain. In all these cases, they can develop a drug interaction.

Methods: Pharmacokinetic interactions are when absorption, metabolism, excretion or distribution of the drug is affected. Pharmacodynamic interactions are when the target organ is affected directly by a drug's agonism or antagonism, or drug-receptor changes. Other factors that can potentiate the development of DDIs are age, gender, co morbid diseases, different metabolism, and number of drugs used by the patient.

Results: A study was published in 2014 in the journal of pharmacy practice which evaluated 8900 patients in Utah, USA through 2005-2009 in terms of drug interactions. 80.2% of the interactions were pharmacodynamic. Pain relievers and migraine control drugs were the second most common group that caused DDIs 956.6%). In other studies the rate of DDI development has been reported between 4.7-8.8%.

Conclusion: Propranolol can reduce the clearance of zolmitriptan, rizatriptan and eletriptan and therefore patients are at more risk of developing adverse effects with these drugs.

Antiepileptic drugs have many interactions with several other drugs including cytotoxic drugs, metabolism inducers and inhibitors, and each other.

SSRIs can inhibit CYP450 enzymes. Citalopram and Escitalopram have less inhibitory effects and hence are preferred when drug interactions are probable. Sertraline is the next choice.