Carbamazepine is associated with numerous clinically significant drug interactions. This widely used agent is most commonly prescribed for either seizure disorders or adjunctive pain management.

Indeed—along with rifampin, barbiturates, and phenytoin—carbamazepine is an important inducer of hepatic and gut wall cytochrome P-450. It is well documented that carbamazepine induces its own metabolism; this autoinduction, which results in increased clearance, occurs during the first few weeks of therapy. In recent years, P-glycoprotein (P-gp)—a drug efflux transporter found in the intestinal lumen, the liver, the kidneys, and the bloodbrain barrier—has also been recognized as a major site for significant drug interactions. It has been speculated that modifiers of the cytochrome P-450 3A4 isoenzyme also alter P-gp expression; however, the data on carbamazepine's activity on P-gp are conflicting and further study is needed.

Table 1 provides some important examples of the effect of carbamazepine on other drugs used concomitantly. 

**EFFECTS OF OTHER AGENTS ON CARBAMAZEPINE**

Several therapeutic agents are well documented to affect the serum concentrations of carbamazepine. Concurrent use of other medication to treat seizures, such as phenytoin or phenobarbital, can reduce serum levels of carbamazepine. Monitor serum carbamazepine levels in this setting. Drugs that inhibit the metabolism of carbamazepine may cause toxicity. Table 2 lists several drugs that may increase serum carbamazepine concentrations. Monitor carbamazepine levels when these agents are added or discontinued. In addition, bear in mind that grapefruit juice has been documented to increase carbamazepine levels.

References: REFERENCES:


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