

PHENYTOIN VS CARBAMAZEPINE: COMPARATIVE STUDY OF THEIR INTERACTIONS WITH OTHER DRUGS IN EPILEPSY

M. Kechagioglou

University of Naples, Research Center, Naples, Italy

AIM: The aim of this study is to be shown the interactions of phenytoin and carbamazepine with other drugs in the treatment of epilepsy

MATERIAL AND METHODS: There were studied the interactions of phenytoin and carbamazepine with other drugs such as hypoglycemic, antineoplastic agents, anticoagulants, antiarrhythmics, antidiarrheals, antibiotics, antivirals and diuretics

RESULTS: Concurrent use of phenytoin with hypoglycemic agents, such as metformin, may lead to decreased hypoglycemic agents efficacy and provoke hyperglycemia, new onset diabetes mellitus and glucose intolerance. Phenytoin with antineoplastic agents, such as methotrexate, may cause severe liver injury. Coadministration of phenytoin with anticoagulants, such as warfarin, seems to potentiate the anticoagulant effect resulting in life-threatening bleedings. Concomitant use of phenytoin and antiarrhythmic agents, such as lidocaine may lead even to cardiac arrest due to additive myocardial-depressant effects of both drugs. On the other hand, carbamazepine with antidiarrheals, such as loperamide, may cause severe respiratory and central nervous system depression. Use of carbamazepine and antibiotics, such as isoniazid, may lead to carbamazepine toxicity and potentiate the risk of isoniazid hepatotoxicity. Concomitant use of carbamazepine with antiviral agents, such as ganciclovir, may significantly increase the risk of hematological toxicity by induction of severe thrombocytopenia and aplastic anemia. Finally coadministration of carbamazepine and diuretics, such as spironolactone, may lead to hyponatremia and cause neurological symptoms such as severe convulsive seizures, lethargy, coma and death

CONCLUSIONS: Use of phenytoin and carbamazepine may achieve their therapeutic goal in the treatment of epilepsy only when used properly

REFERENCES

- *INTERNAL MEDICINE* Martin J.Cline, Walter J. Daly, John J. Hutton, Peter O. Kohler
- *CURRENT MEDICAL DIAGNOSIS & TREATMENT* Lawrence M. Tierney, Stephen J.McPhee, Maxime A. Papadakis (42th edition)
- *CURRENT THERAPY* Conn's
- *TEXTBOOK OF MEDICINE* Cecil (19th edition)