Rev Neurol. 2002 Oct 16-31;35(8):711-6.

[A study of some indirect biochemical markers in the evaluation of enzymatic induction caused by antiepileptic drugs].

[Article in Spanish]

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Abstract

A comparative study was carried out to examine urinary excretion of D glucaric acid (DGA), g glutamyltransferase (GGT) activity and the concentration of serum bilirubin as enzymatic induction markers in 89 adult patients (56 men and 33 women) who were receiving chronic treatment with phenobarbital, phenytoin, carbamazepine and valproate. As in most cases, these drugs were administered as a polytherapy; drugs doses were expressed in units/day, in accordance with a previously described system of scoring, which would reflect the induction capacity of the combination of drugs administered. We found a high prevalence of results that were above the upper reference limit for urinary DGA (93.2%) and serum GGT (80.6%). Bilirubin and its conjugate and non conjugate fractions were found to offer values that to a large extent matched those of the control group. The levels of the different biochemical variables presented significant correlations with the daily doses of the drugs administered, above all in the case of DGA (r= 0.773, p< 0.001). When we split the data according to sex, the correlations improved in men but were significantly worse in women. This fact could be due to a greater inter individual variability in the response to inducers of the phenobarbital type in female patients. Urinary DGA seems to be a better enzymatic induction marker than GGT and bilirubin and its serum fractions, the value of which appeared to be very limited in these cases. Separating GGT into its isoforms provided no further information of practical interest as regards the enzymatic activity as a whole.

PMID: 12402220 [PubMed - indexed for MEDLINE] Free full text