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WHY SHOULD PATIENT ON PHENYTOIN ADMINISTERED CONCURRENTLY WITH NA-VALPROIC ACID THERAPY BE MONITORED? (A CASE STUDY)

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ABSTRACT

TDM is useful to control the occurring of adverse effect to the patients. Routinely, evaluation of the total serum drug concentration is appropriate when binding-protein concentrations are less than 80% of the highly protein bound antiepileptic drug and creatinine clearance <10 ml/min. Hypoalbuminemia leads to a decrease in the number of drug binding sites and increased free drug levels. This case was found in GH Penang. A 56 years old malay female whose weight was 65 kg admitted due to breakthrough seizure, having history of meningoenchephalitis (subarachnoid Cyst) had received intravenously Phenytoin 450mg as loading dose on admission, then maintained with 100mg, 100mg and 120mg ON. Na-Valproic acid 400mg tds then also concurrently administered. Therapeutic course was done to this patient such as laboratory investigation and monitoring to drug used as follow. Renal profile showed moderately impaired and hypoalbuminemia. In this report, pharmacokinetic evaluation shows that pharmacokinetic interaction had been occured. Na-Valproic acid level measured was 51.8 and Corrected Phenytoin levels were 17.27 and 11.54. Even, fortunately, no clinically symptoms significantly manifested due to free drug-related toxicity caused by hypoalbuminemia was found such as: nystagmus and ataxia or might be changes in mental status, this case supposed to be as a signaling for pharmacist in charge in TDM unit to closely monitor before the unexpected clinical condition occurred.