S51-4 Clinical evidences on the drug interactions between conventional and novel antiepileptic drugs

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Epilepsy is one of the most common neurological disorders, and its prevalence rate in Japan is about 1%. Epilepsy is mainly controlled with an antiepileptic drug (AED) which is selected based on seizure types. For intractable patients who are poorly responsive to AED monotherapy, it is common to be used concomitantly with other AEDs to control seizure. Most of clinically used AEDs (for example, valproic acid, carbamazepine, and phenytoin) have narrow therapeutic windows. Therefore, serum concentrations should be determined via therapeutic drug monitoring (TDM) to avoid any side effects. Recently, three novel AEDs (gabapentin, topiramate, and lamotrigine) have been approved in Japan. It is expected that these drugs have fewer side effects as well as more therapeutic efficacy compared with the conventional AEDs. However, the current guideline of epilepsy treatment in Japan recommends that valproic acid and carbamazepine are used as first-line drugs for generalized and partial seizures, respectively. Furthermore, the novel AEDs being approved in Japan are commonly used as adjunctive therapy for intractable patients who are poorly responsive to conventional AEDs. Therefore, it might be concerned to increase the risk of unexpected adverse effects caused by the combined therapy of the novel and conventional AEDs. Thus, we focus on the clinical pharmacokinetic and pharmacodynamic interactions between conventional and novel AEDs, and mention important points for the hospital pharmacists who perform the safe and effective treatment of epileptic patients with AEDs.