S13-2 Pharmacogenomics testing for irinotecan and studies in daily clinical practice

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Irinotecan hydrochloride (CPT-11) was approved by the Japanese authorization in 1994, and is an anti-cancer agent that is used to treat numerous malignancies, including colorectal cancer and lung cancer. Several groups have reported that there is a correlation between genetic variations of UGT1A1 and severe toxicity due to irinotecan. In June 2008, the MHWL ordered revision of the package insert to include information about the correlation between severe irinotecan toxicity, especially neutropenia, and polymorphism of the UGT1A1 gene, and also approved the Invader UGT1A1 Molecular Assay kit. The kit was released in March 2009, allowing investigation of UGT1A1 polymorphism in daily clinical practice. Since the irinotecan package insert was revised, we have been asked a lot of questions about the UGT1A1 test in daily clinical use, but the main two questions have been as follows: 1) Is it necessary to test all patients receiving irinotecan treatment? 2) What is the genotype-based protocol for dose reduction (or the recommended dose)? Unfortunately, there are no clear answers for these questions based on previous knowledge. To achieve individually tailored treatment using UGT1A1 genetic information, further knowledge obtained from clinical studies will be required. We would like to discuss the clinical studies that are needed to implement UGT1A1 testing into daily clinical practice, and introduce our challenges.