

Imatinib (Gleevec®) and Oseltamivir (Tamiflu®)

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Imatinib (Gleevec®) is metabolized mainly by the cytochrome P450 (CYP) isoenzymes 3A4 and 3A5, while other CYPs play a minor role only in its metabolism [1]. Imatinib has also been demonstrated to be a substrate of hOCT-1 and Pgp [2;3]. One of the metabolites of imatinib shows comparable activity to imatinib, but amounts to less than 20% of circulating imatinib only. Most of imatinib and its metabolites are eliminated predominantly through the bile and then excreted with stools, only a smaller part with the urine.

Oseltamivir (Tamiflu®) is readily absorbed from the gastrointestinal tract. Enzymes in the liver, so called esterases, convert most of oseltamivir to an active metabolite (oseltamivir carboxylate) [2]. No other metabolites have been found in humans [4]. Oseltamivir carboxylate is then eliminated by the kidneys with urines, partly through glomerular filtration and partly through tubular secretion involving hOAT1 and hOAT3. Neither oseltamivir nor its metabolites interacts with cytochromes P450 or other enzymes involved in imatinib metabolism [4].

Oseltamivir and imatinib have different mechanisms of metabolism and elimination. Pharmacologic interactions are therefore unlikely and the amount of these drugs in the body unchanged by adding one or the other drug.

Nonetheless, as oseltamivir and imatinib share some side effects, such as nausea and vomiting, these should be carefully monitored and oseltamivir not be taken indiscriminately, but only after counselling with your treating physician and/or oncologist.

Additional caution should be taken as the combined use of imatinib and oseltamivir had never been formally studied and therefore unexpected side-effects might occur and can't be excluded.

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