Abstract

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Therapeutic drug monitoring (TDM) can be defined as the measurement of drug in biological samples to individualise treatment by adapting drug dose to improve efficacy and/ or reduce toxicity.

The cytotoxic drugs are characterized by steep dose–response relationships. Inter-individual pharmacokinetic (PK) variability is often substantial. There are, however, a multitude of reasons why TDM has never been fully implemented in daily oncology practice.

The situation is different with oral targeted therapies. Oral administration generates a complex step in the pharmacokinetics (PKs) of these drugs. The large interindividual PK variability is influenced by the pharmacogenetic background of the patient (e.g. cytochrome P450 and ABC transporters polymorphisms), patient characteristics such as adherence to treatment and environmental factors (drug–drug interactions). Studies have shown that some targeted drug exposure correlates with treatment response in various cancers, with heterogeneous levels of evidence.

Efforts should thus concentrate on strategies aiming to maximise the potential therapeutic benefit of therapies by optimising dosage regimens with TDM in a personalised medicine setting. Developing skill about TDM is a major issue a for oncology clinical pharmacist. The aim of the workshop will be to offer practical keys to implement TDM in routine activity. Participants are encouraged to continue could discussions in the ESOP TDM working group over the next months.