

---

## IS6. PERSONALIZED MEDICINE IN SOLVING FORENSIC CASES

Ersi Abaci KALFOGLU

Faculty of Medicine, Yeni Yüzyıl University, Turkey

Personalized medicine investigates individual genetic variations in susceptibility to the foreseen effects of a drug or of xenobiotics. Indeed, adverse drug reactions can cause morbidity or mortality and different subjects with the same diagnosis could respond differently to the same drug administered at the same dose. There is a series of causes for this, one of them being genetic make-up or polymorphisms. The human genomic sequence varies at the level of 0.1 %, meaning that there are several millions of nucleotide differences between individuals. This genetic diversity that is expected to have no functional significance may be the cause for death, severe disability, and heterogeneous capacity of each individual to respond to xenobiotics. The detection of these variations has been facilitated the last years by the enormous development that has been achieved in the field of genetics. Personalized medicine promises to optimize therapy and minimize side effects on the one hand and on the other can provide insight to issues of legal medicine like drug related deaths, unintentional poisoning and generally cases where the cause of death is unclear. As an example, substance abuse which is a public health problem worldwide has both genetic and environmental causes. Knowledge of genetic factors may enable the individualization of prevention and treatment of drug addiction. Malpractice cases due to drug administration may be examined in a person-based manner for a precise result. Although the technology seems highly promising, still a serious amount of research is required in order to safely use the idea in the medico-legal context because justice is not ready to introduce this new concept easily to its system.

\* [ersi@istanbul.edu.tr](mailto:ersi@istanbul.edu.tr)