

IS23. FORENSIC PHARMACOGENETICS

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Drug therapy method has been practiced for centuries. However, responses to drugs are observed inter-individually variable and variation of responses may cause to adverse drug reactions or severe toxic reactions even that can lead to death. Inter- individual differences are based on the polymorphism of drug metabolising enzymes as well as age, gender, nutrition, co-medication and physiological conditions. Variation in drug response due to genetic differences is termed as “pharmacogenetics”. The slogan of this discipline is “Right patient, right drug, right time”.

It is essential that the pharmacogenetics is needed to practice into forensic science. Forensic pharmacogenetic should be evaluated in terms of molecular autopsy. Information about an individual’s pharmacogenetic profile may possibly facilitate the interpretation of the post-mortem result and contribute to solve the “toxicological puzzle”. Adverse drug reactions or deaths related especially codeine, warfarin, amitriptyline, fentanyl, antipsychotics should be considered on a preferential basis in the polymorphism of genes including CYP450s such as CYP2D6, CYP2C19, CYP3A4.

In this frame, conducted studies about forensic pharmacogenetics in Turkey will be presented and the importance of this developing field will be mentioned in company with samples. Some problems such as ethical, technical and economical about this newly developing area will be discussed.

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