

PREGABALIN DETERMINATION IN POSTMORTEM SAMPLES AND TOXICOLOGICAL SIGNIFICANCE IN FORENSIC CASES

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Pregabalin (PGB) was initially developed for epilepsy treatment, but nowadays its application has been expanded to neuropathic pain, anxiety disorder, and fibromyalgia. Unfortunately, over the past decade, PGB has migrated from a prescription drug to a novel recreational drug with considerable potential for abuse and intoxication worldwide. According to the data of the Institute Forensic Medicine Niš, the increase of PGB intoxications has also been noticed in the Southeast Serbia in recent years. Toxicological results of postmortem blood and urine samples obtained in the authors' laboratory in 2019 were primarily processed. Cases of intoxications with PGB, in combination with other psychoactive substances such as alcohol were included in this paper. All blood and urine samples were extracted using solid-phase extraction cartridges and forwarded to the chromatographic separation. Gas chromatography with mass spectrometry (GC/MS) was used for pregabalin determination, while liquid chromatography with tandem mass spectrometry (LC/MS), high-performance liquid chromatography with a photodiode array detector (HPLC/PDA), and headspace gas chromatography with flame ionization detector (HS-GC/FID) were used for other substance analysis. The PGB abuse has created concerns about risks of respiratory depression and death when used with opioids or other central nervous system depressants, such as drugs found in our investigated cases. Autopsy results showed that deaths were violent and the main cause of deaths was overdose with additive, depressive effects of drugs and alcohol on CNS. Consequently, health professionals must be aware of this misuse potential of PGB which could lead to dependence and overdose with a fatal outcome.

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