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# Profiles of pregabalin and gabapentin abuse by postmortem toxicology

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## Abstract

Pregabalin (PRG) and gabapentin (GBP) are used in the treatment of neuropathic pain and epilepsy, and PRG also in generalized anxiety disorder. There is increasing evidence that PRG possesses considerable abuse potential. PRG may have a higher addiction potential than GBP due to its rapid absorption and faster onset of action. Our objective is to estimate the proportion of all PRG- and GBP-related fatalities attributable to PRG and GBP abuse. We investigated all medico-legal death cases in Finland in which PRG or GBP was found in postmortem toxicology during 2010–2011. PRG was found in 316 cases and GBP in 43 cases. Drug abuse was associated with 48.1% of the PRG and 18.6% of the GBP findings. PRG poisoning accounted for 10.1% of all PRG cases and GBP poisoning for 4.7% of all GBP cases. In the drug abuser cases, PRG poisoning represented 19.1%, and GBP poisoning 12.5%. The median blood concentration of PRG was 15 mg/L in the abuser group and 5.8 mg/L in the other cases. For GBP, these concentrations were 12 mg/L and 8.3 mg/L, respectively. In the PRG abuser group, 91.4% of cases showed concomitant opioid use, while in the rest of these cases neither alcohol nor opioids were detected, but other central nervous system acting drugs were found in each abuser case. In the GBP abuser group, 87.5% of cases showed concomitant opioid use. PRG abuse with high doses is increasingly common and can be fatal when combined with opioids.

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