

**Case Report**
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## Misuse of Pregabalin: Case Series and Literature Review

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### Introduction

Pregabalin (Lyrica) is widely used in neurology, psychiatry and primary healthcare. Pregabalin has been identified within the 30 most prescribed medications in the USA in 2011 and its prescribing is rapidly increasing and total sales of the drug worldwide reached 4.6 billion US\$ in 2012 [1-4]. It's an anticonvulsant approved in Canada and the United States (US) to treat neuropathic pain associated with diabetic peripheral neuropathy, postherpetic neuralgia, and pain associated with fibromyalgia [9,10] in adults and approved in Europe to treat generalized anxiety disorder [5-13]. The maximum dose of pregabalin depends on its indication but should not exceed 600 mg/day. Gabapentin-induced hypomania and mania as well as gabapentin-associated aggression have been reported. Both pregabalin and gabapentin are GABAergic, and pregabalin is structurally related to gabapentin. GABA-mimetic properties presenting direct/indirect effects on the dopaminergic 'reward' system. Overall, pregabalin is characterized by higher potency, quicker absorption rates and greater bioavailability levels than gabapentin. Pregabalin has shown greater potency than gabapentin in preclinical models of epilepsy, pain and anxiety, and pregabalin may have potential in the treatment of some aspects of cocaine addiction [13-17]. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) recently highlighted early reports from pharmacovigilance data from four countries, including the UK, regarding the potential for misuse of  $\gamma$ -Aminobutyric acid (GABA)-analogue medications, including gabapentin and pregabalin [2,18-20]. The purpose of this report is to review the clinical evidence for the potential of abuse and misuse of pregabalin. We propose ten different cases and literature review.

### Material and methods

#### Literature Review

We conducted a systematic literature review with the principal scientific databases (PubMed, Embase, PsycINFO, MEDLINE) including papers, papers containing case reports of patient with DP and/or BD, all articles written and published in English between 2004 and 2016 were included. The key words or terms included in this search were: "pregabalin", "misuse" and "abuse".

#### Sample

Ten inpatients with misuse of pregabalin were assessed with: the SCID-P for axis I diagnosis, Anamnestic Folio to qualify all the possible clinical correlates linked to drugs abuse, HAM-A

(Hamilton Anxiety Scale) to quantify anxiety symptoms and Drug Abuse Screening Test (DAST) to quantify drugs abuse. All patient received a complete internist examination, blood test exams and as well as a urine drugs screening.

### Results

There are any significant different in sociodemographic characteristics. We found in all our patients with pregabalin misuse at the admission a presence of: cocaine, alcohol and/ heroin positive in drugs urine screening; a significant high level of total anxiety at the HAM-A Tot ( $p < .001$ ), and especially at the item 7 ( $p < .001$ ); the misuse of pregabalin is made for sniffing; the predominant symptoms assessed were euphoria, psychomotor activation and sedation.

### Discussion and conclusion

Pregabalin may help to reduce pain in diabetic neuropathy, in post-herpetic neuralgia and in fibromyalgia, in the treatment of diverse types of seizures, in generalized anxiety disorder, may be a therapeutic agent for alcohol dependence, as well as are emerging, but a potential abuse or misuse of the drug has also been reported [15].

Pregabalin is to use carefully in patients with a history of substance / alcohol misuse or drug alcohol misuse in the family (partner/ parents etc.), as well as in patients with mental health problems [2,19-21].

Schifano F et al., suggest that physicians considering prescribing gabapentinoids for neurological/psychiatric disorders should carefully evaluate a possible previous history of drug abuse, whilst being able to promptly identify signs of pregabalin/ gabapentin misuse and provide possible assistance in tapering off the medication [2,20,21]. Since entering widespread clinical use, reports of pregabalin abuse appeared more often, usually involving individuals with a history of abuse of other medications [4]. Our result identify a particular population the misuse pregabalin that are abuser of cocaine, alcohol and/ or heroin. Further research is warranted to replicate our clinical and qualitative observations and, in general, quantitative studies in large samples followed up over time are needed. Methodological limitations, clinical implications and suggestions for future research directions are considered.

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