

Case report

**Attempted suicide with milnacipran: a case report**

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## INTRODUCTION

Milnacipran (Ixel®) (1-phenyl-1-diethyl aminocarbonyl-2-aminomethyl cyclopropane-2-clorhydrate) is a new antidepressant that inhibits the presynaptic reuptake of both serotonin and noradrenaline (SNRI). It is available in some countries in Europe, Latin America and Japan. The antidepressant efficacy of milnacipran has been shown in randomized placebo-controlled studies. It has been observed to have a similar antidepressant efficacy to tricyclic antidepressants (TCA), such as amitriptiline and imipramine, as well as to selective serotonin reuptake inhibitors (SSRI), such as fluvoxamine and fluoxetine.<sup>1-5</sup>

Since milnacipran has only recently been introduced to the Colombian market, it has been little reported in terms of its side effects.<sup>1,5</sup> More importantly, no data about attempted suicide by overdose has been found. After completing a search of *milnacipran* and *overdose*, and *attempted suicide* and *suicide* in PubMed and TOXNET, seven articles that offer little information on this subject were found. Therefore, the following case and its clinical findings are presented with the objective of documenting an attempted suicide by exogenous intoxication of milnacipran.

## CASE PRESENTATION

A 35-year-old married female, currently in college with two children was brought by her husband to the emergency room for attempted suicide by exogenous intoxication of milnacipran 1400 mg and clonazepam 5 mg. During the first hour following the ingestion of these medications, the patient presented nausea, notable emesis, diaphoresis and loss of consciousness. The patient stated that she had been experiencing major depressive episodes for the last seven years (two postpartum depressive episodes), five of which required psychiatric hospitalization. Also, she described one manic episode that required hospitalization. She admitted to having attempted suicide four times in the past (two by exogenous intoxication of psychotropic medication), and disclosed having a family history of mood disorders (mother and sister). In addition, she reported that she had

suffered from hypothyroidism for two years without treatment and had experienced a minor head trauma three years prior.

When the patient arrived to the emergency room her blood pressure was 102/72 mm Hg, heart rate was 90 beats/minute and respiratory rate was 18 breathes/minute. Both her physical and neurological examinations were normal. During the mental status examination, the patient presented depressed mood, feelings of worthlessness and guilt, hopelessness, and suicidal ideation. She did not regret her most recent attempt at suicide and was unsure as to whether she would repeat this behavior in the near future. No psychotic symptoms were noted.

In the emergency room a gastric lavage with 1000 cc saline solution (SSN) was performed via nasogastric tube (NGT); every eight hours, activated carbon was given via NGT; and hourly, intravenous SSN at 150 cc was administered. Finally, the following analytical laboratory tests were performed with normal results: electrocardiogram, complete blood count, glycemia, liver panel, renal function, and thyroid-stimulating hormone (TSH).

The diagnosis of bipolar I disorder most recent episode severe depression with psychosis was made according to DSM IV TR.<sup>6</sup> The patient was evaluated by toxicology and neurology for severe toxic syndrome and signs of neurological deficit; there was evidence of neither and the patient was given permission to go home. However, all psychotropic medication was suspended and the patient was kept for observation for 72 hours based on her high suicide risk.

The patient's recovery from the overdose of milnacipran and clonazepam was satisfactory. It was decided that additional tests for hypothyroidism could be done on an outpatient basis, but due to the high risk for suicide, the patient was admitted to the hospital for psychiatric treatment of bipolar I disorder.

## DISCUSSION

Milnacipran has only been recently introduced into the Colombian pharmaceutical market. As a result, little has been published concerning overdose with this medication in our society. As

with other SNRI, the two most common side effects of this medication are dysuria and nausea, yet this patient presented nausea and emesis.<sup>4,7</sup>

In accordance with other norepinephrine reuptake inhibitors, the administration of high dosages of milnacipran has been reported to increased blood pressure,<sup>7-9</sup> which did not occur in this case. This could be attributed to the patient's emesis and the prompt medical attention. On an international level, data from approximately 15 cases of an overdose with milnacipran have been published. None of these cases have ended in the patient's death. In contrast, they all had favorable outcomes, similar to the case reported here.<sup>7</sup>

Possibly the low toxicity of an overdose with milnacipran is due to the way this medication produces significant emesis at high dosages.<sup>5</sup> This in turn prevents absorption via the gastrointestinal tract and lowers the probability of toxic effects for patients who attempt suicide with this medication. In this case, the patient vomited a half hour after the ingestion of 28 tablets which helped save her life. This case report could contribute to the low toxicity of this medication that lowers the risk of death in patients who use milnacipran to attempt suicide.

In this case, the patient combined milnacipran with a dosage of 5 mg of clonazepam. The addition of this benzodiazepine explains the patient's loss of consciousness and the initial somnolence. However, it is important to keep in mind that the patient had been taking this benzodiazepine at lower dosages for some time (0.5 mg/day). In the revised literature no pharmacokinetic interactions between these two medications have been described. There have been reports of the combination of milnacipran with lorazepam that fail to correspond with the clinical findings of this case.

Fortunately for this patient, the intoxication with milnacipran was promptly diagnosed and treated. Because medical personnel were able to save her life, this patient was given the opportunity to continue treatment for her primary mental disorder within a psychiatric clinic.

## CONCLUSION

Although milnacipran overdose appears to be rare, patients at risk should be closely monitored for possible complications. In this case report, we can show that milnacipran is a safe medication in intoxication cases.

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## ABSTRACT

*Milnacipran is a new antidepressant, which is claimed to have fewer side effects than classic antidepressives. We report one case where patient attempted suicide by overdose. During the first hour following the ingestion of this drug, the patient presented nausea, notable emesis, diaphoresis and loss of consciousness. The patient's recovery from the overdose of milnacipran and clonazepam was satisfactory. We can show that milnacipran is a safe medication in overdose cases. Special awareness and future research of this phenomenon is highly indicated because of the common use of this drug.*

Keywords: *Antidepressive agents, adverse effects, milnacipran, overdose, suicide.*

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